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ABSTRACT

This book is designed to provide practical information about planning and operating virtual, or online, schools. It discusses and illustrates promising practices and successful models and approaches; provides planning resources for implementation; presents costs and benefits of launching virtual schools; offers preventive strategies that help districts anticipate and avoid common pitfalls; and features profiles of successful virtual-school programs. Chapter 1 looks at basic issues and concerns. Chapter 2 considers differences between face-to-face and online teaching and learning and discusses course design and professional development for the online environment. Chapter 3 presents profiles of seven online schools active in 2002 and includes sample online education policies in force at the time the profiles were drawn. Chapter 4 features print and electronic resources related to virtual schools. Included are appendices that include sample student and teacher evaluation forms, excerpts from an online school handbook, and an online course standards document. (WFA)

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Virtual Realities: A School Leader's Guide to Online Education

ED 482 029

An ITTE Technology Leadership Network Special Report

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A Publication of the National School Boards Association's ITTE: Education Technology Programs

Virtual Realities: A School Leader's Guide
to
Online Education

Ismat Abdal-Haqq
Editor

A Technology Leadership Network Special Report

ITTE: Education Technology Programs
NATIONAL SCHOOL BOARDS ASSOCIATION
Alexandria, Virginia

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·NSBA·

Dear Education Leader:

NSBA is pleased to present *Virtual Realities: A School Leader's Guide to Online Education*, which gives school board members, superintendents and other district administrators, technology coordinators, staff developers, building administrators, teachers, higher education faculty, and researchers practical information about planning and operating online, or virtual, schools.

The book features profiles of virtual school programs operated by districts in NSBA's Technology Leadership Network, which includes many of the more progressive and innovative education technology programs in the country. Readers will discover how these districts are dealing with several thorny issues confronting online learning planners and managers, including academic credit, equity, attendance requirements, copyright and other legal issues, staff development, funding, accountability and evaluation, curriculum design, and standards alignment. An extensive resource collection includes information on research reports, assessment instruments, course development, and planning guides.

Virtual Realities: A School Leader's Guide to Online Education is the latest publication from NSBA's ITTE: Education Technology Programs (ITTE), which sponsors publications, online courses, meetings, site visits, electronic communities, Web sites, and conferences to promote constructive and responsible use of education technology. Almost 500 school districts in the United States and Canada participate in ITTE's Technology Leadership Network.

We hope that you will call on NSBA and ITTE for additional resources to help you utilize technology to promote student learning and support the work of school boards, administrators, and practitioners.

Sincerely,

Mossi W. White

Mossi W. White
President, NSBA

Anne L. Bryant
Executive Director, NSBA

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The National School Boards Association is the nationwide organization representing public school governance. NSBA's mission is to foster excellence and equity in public elementary and secondary education through school board leadership. NSBA achieves its mission by representing the school board perspective before federal government agencies and with national organizations that affect education, and by providing vital information and services to state associations of school boards and local school boards throughout the nation.

NSBA advocates local school boards as the ultimate expression of grassroots democracy. NSBA supports the capacity of each school board—acting on behalf of and in close concert with the people of its community—to envision the future of education in its community, to establish a structure and environment that allow all students to reach their maximum potential, to provide accountability for the people of its community on performance in the schools, and to serve as the key community advocate for children and youth and their public schools.

Founded in 1940, NSBA is a not-for-profit federation of associations of school boards across the United States and its territories. NSBA represents the nation's 95,000 school board members that govern 14,890 local school districts serving the nation's more than 47 million public school students. Virtually all school board members are elected; the rest are appointed by elected officials.

NSBA policy is determined by a 150-member Delegate Assembly of local school board members. The 25-member Board of Directors translates this policy into action. Programs and services are administered by the NSBA executive director and a 150-person staff. NSBA is located in metropolitan Washington, D.C.

NSBA's Programs and Services

- **National Affiliate Program** – enables school boards to work with their state association and NSBA to identify and influence federal and national trends and issues affecting public school governance.
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- **Federal Relations Network** – school board members from each congressional district actively participate in NSBA's federal and national advocacy efforts.
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- **National Education Policy Network** – provides the latest policy information nationwide and a framework for public governance through written policies.
- **Research/Training/Development and Resource Exchange Network** – meetings, clearinghouses, online learning, and consulting services to develop leadership of state school boards associations and local school boards.

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About NSBA's ITTE: Education Technology Programs

The National School Boards Association established ITTE: Education Technology Programs (formerly known as the Institute for the Transfer of Technology to Education) in 1985 to advance the wise and appropriate use of technology in public education. The Technology Leadership Network, a major component of ITTE, was created in 1986 to help school districts share in dialogue about technology in education.

Special reports such as this one are among the benefits of participation in the Technology Leadership Network. The newsletter *Technology Leadership News*, the annual Technology + Learning Conference, site visits to exemplary school districts, topical meetings, an e-mail list, and online courses are some of the additional opportunities.

For information on events, activities, publications, and almost 500 school districts participating in the Technology Leadership Network, see ITTE's Web site, www.nsba.org/itte, or contact the ITTE staff at NSBA, 1680 Duke St., Alexandria, VA 22314, (703) 838-6722, e-mail: itte@nsba.org.

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Introduction

Ismat Abdal-Haqq
National School Boards Association

At the heart of *Virtual Realities: A School Leader's Guide to Online Education*, are profiles of online education programs operated by seven members of NSBA's Technology Leadership Network (TLN). The information included the profiles was gathered in early 2002 from TLN educators who generously agreed to share what they have learned from planning and implementing K-12 online education programs. These educators responded to a request from NSBA's ITTE: Education Technology Programs to complete a virtual schools information form (see Appendix 4).

While every site included in this publication has encountered problems and obstacles, there have also been dividends and rewards. Districts that are considering establishing virtual schools should be prepared for lots of hard work, says Shawn Morris, administrative coordinator of Wichita eSchool, one of the seven profiled programs. "But it is well worth the effort," she maintains. "You are providing another way for students to learn, and in doing that you are expanding your reach to your community. There are always students who fall through the cracks, and online courses may be just what some of those students need to get their education."

> ***"Virtual education is not about technology; it is about education. So, opting for a virtual e-learning mode does not provide a shortcut around the necessary elements that make ANY education relevant, responsive and effective. In planning for virtual education, the temptation is to focus on the technologies and ignore the important educational policy and strategy issues. This practice has led to virtual programs that are technologically exciting but educationally ineffective—bad education at a distance."***
>
> Wadi D. Haddad
> TechKnowLogia

What are virtual schools?

Virtual schools are a subset of distance education—also labeled distance learning, distributed learning, and remote education. In distance education, the teacher and student are separated by distance, but there is interactive communication between them. The student provides some kind of feedback, immediate or delayed, to the teacher. Distance learning technologies include print, audio/voice, computer or data, and video. Examples of distance learning include correspondence courses, audioconferences, e-mail, and videoconferencing.

For its national survey, *Virtual Schools Across America: Trends in K-12 Online Education 2002*, the Peake Group developed five criteria for classifying a school or program as a virtual school.

- Online delivery, via the Internet, is the primary delivery method.
- There is a focus on the K-12 audience.
- The audience reached by the school or program is larger and broader than that of the traditional day school.
- The school is either accredited or closely affiliated with an accredited organization.
- Students can receive credit from the school itself or through their local school.

In compiling its online directory of virtual schools, the Distance Learning Resource Network, the dissemination arm of the U.S. Department of Education's Star Schools Program, defines a virtual school as "an educational organization offering courses designed for K-12 learners through distance learning methods that include Web-based delivery (DLRN, n.d.)." For his study of 33 K-12 virtual schools in the United States, Tom Clark (2001) defined virtual schools as "an educational organization that offers K-12 courses through Internet- or Web-based methods." The definition used in the TLN questionnaire was "an educational organization that offers P-12 courses via the Internet and/or World Wide Web."

Numbers

The earliest virtual schools were high schools, and high schools continue to dominate the online school terrain. In his discussion of virtual high school trends and issues, Anthony Lizardi identified 80 "high schools that use the Internet as their primary means of delivering instruction." However, Clark indicates that the trend toward including lower grades in online schools, cited in earlier research, continues. Of the 33 online schools he surveyed, 25 percent offered courses across all grade levels.

There are several categories of virtual school operators. They include nationwide consortia, such as the Virtual High School in Massachusetts (http://www.goVHS.org), originally operated by the Concord Consortia. Universities, like Indiana University, which runs the Indiana University High School Diploma Program (http://scs.indiana.edu/hs/hsd.html), sponsor virtual schools too. In his 2001 study, Clark identifies 14 statewide initiatives, such as the well-known Florida Virtual School (http://www.flvs.net/).

Regional education agencies have also established online schools. For example, Southeast Kansas Education Service Center-Greenbush established Virtual Greenbush (see Chapter 1). There are cyber-charter schools, managed by entities holding a state charter; virtual schools operated by private schools; and online schools directed by for-profit companies, such as K12, launched in 2001 by former U.S. Secretary of Education William Bennett (Clark, 2001; Russo, 2001).

The number of virtual schools and the number of students enrolled in them are increasing rapidly. Using the criteria outlined above, the Peake Group (2002) identified about 88 programs, 40 of which were interviewed for its report.

Clark's (2001) study, *Virtual Schools: Trends and Issues*, is based on an online survey of 33 programs, but it also lists more than 70 programs of various types. In a National School Boards Foundation survey of technology decision makers from more than 800 districts, over 30 percent of the respondents predicted that at least 20 percent of students will receive a minimum of one-third of their instruction via the Internet over the next three years. Extrapolating from his 2001 survey, Clark gives a "ballpark" estimate of 40,000 to 50,000 K-12 students enrolled in online courses in 2001-2002.

Purposes and benefits of virtual schools

Like Witchita eSchool, some K-12 online education programs were established, partly, to address the needs of parents and students involved in homeschooling. In some cases, virtual schools are designed, to a certain extent, to woo homeschoolers back into the public school system.

In addition, virtual schools:

- provide instruction and opportunities to keep up and graduate on time to students who are unable to attend regular school for various reasons, such as medical conditions, incarceration, work, migration, or suspension.

- give flexibility to students who have scheduling conflicts because of courses, work-study, service learning, or extracurricular activities
- offer courses (such as Advanced Placement, foreign languages, advanced math and science) that many small, rural, or resource-poor schools cannot afford to provide because they don't have the staff
- make available enrichment courses that even well-endowed schools might not offer
- increase educational options for parents and students
- add to the venues for learning available to students whose learning styles, working styles, or social styles may not be compatible with the classroom environment in their local schools

Supporters of virtual schools, for the most part, do not see online schools as substitutes for traditional schooling, but as a supplement that extends, complements, and enhances existing schools. "We don't replace the local school," says Matthew Wicks, co-chair of the Illinois Virtual High School Steering Committee. "We partner with them to supplement the curriculum at the local school, offering courses ranging from remedial courses to advanced placement and everything in between. The key is to expand the options available to all students, whether they be students who do not have specific courses available at their schools, or students whose learning styles are more compatible with an online offering." (http://ts.mivu.org/default.asp?show=article&id=988)

Challenges and Concerns

Across the nation, enthusiasm for virtual schools is tempered by concern over a number of thorny issues. In discussions with NSBA staff, state school boards association members identified several policy concerns related to virtual schools:

- verifying that students have completed the work themselves
- ensuring equity and accommodation for special education students
- handling transfer students and credits earned online
- ensuring that courses fulfill high school graduation requirements
- arriving at meaningful funding formulas

Among the difficulties associated with virtual high schools cited by Lizardi are substantial costs; time-consuming instruction for teachers; inadequate self-discipline on the part of students; potential for students to pass off someone else's work as their own; balancing online teaching requirements and the rights of teachers, as reflected in collective bargaining agreements; and quality control issues associated with teacher credentials and school and course accreditation.

The technology to launch online schools has clearly outpaced efforts to develop and operationalize standards for online teacher certification for online courses. For example, when Sally Bond and Pamela Finney (2000) investigated what states were doing with regard to certifying teachers to teach online, they found only one distance learning certification program tied to state teacher licensure—the Distance Learning Endorsement Program (http://dlendorsement.usu.edu), a joint effort of Utah's State Office of Education and the Department of Instructional Technology at Utah State University. Other university-based programs, as well as private, for-profit entities, offered distance learning certificate programs, but none offered state-recognized credentials.

However, there is movement among educators to develop standards for online teaching and learning. At its July 2002 annual meeting, the National Education Association (http://www.nea.org) adopted new policy guidelines for quality distance learning programs. The policy guidelines reflect many of the principles outlined in the NEA report, *Guide to Online High School Courses*, developed by a working group of nine education organizations, including NSBA, and corporate representatives. The guide "addresses quality measures for online courses offered to high school (grade 9-12) students" (NEA, n. d.).

An important issue mentioned by Alexander Russo (2001) is equity. Students who have access to their online courses at home are in a better position to take advantage of the anytime, anywhere aspect of virtual courses, which is so much a part of their appeal, than students who don't have the equipment or Internet access. Russo also lists learner isolation, technical problems, comparatively low course completion rates, and limited evaluative information as considerations.

About This Book

Chapter 1, "Implementing High School Online Learning Programs," looks at nuts-and-bolts issues and concerns. Practical guidance and illustrations help educators navigate the relatively uncharted waters of virtual schooling. Chapter 2, "Teaching Methods and Staff Development for Online Classes," considers differences between face-to-face and online teaching and learning and discusses course design and professional development for the online environment.

In Chapter 3, "Profiles of Online Education Programs in Technology Leadership Network Districts," the online schools of seven TLN members are profiled. This diverse group of programs represents every geographical region and includes urban, rural, and suburban districts. Included in this chapter are sample online education policies currently in force.

Chapter 4 features print and electronic resources related to virtual schools. Concluding this guide is a collection of appendices that includes student and teacher evaluation forms, extracts from an online school handbook, and an online course standards document.

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Chapter 1

Implementing High School Online Learning Programs

Mike Bodensteiner and Kim Pingree
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Girard, Kansas

School board members, administrators, technology coordinators, and teachers must address a range of issues when considering online high school courses as a strategy for providing educational opportunities for students. Both challenges and unique opportunities exist, including the selection of course content, policy development, parent involvement, budgeting, technical considerations, teacher training, evaluation, and student support. Online learning is complicated by the fact that student success is dependent upon the level of teamwork and collaboration that exists between administrators, teachers, support staff, parents, and students. No less important is that, with online programs, as with other forms of instructional delivery, policies adopted by the board of education and administration must be consistent with the instructional models, design, and intent of the coursework.

Dispelling Myths about Online Instruction

Schools working to implement models of virtual instruction soon dispel many myths that have come to surround Internet-based instruction. The first of these myths is that online courses only focus on core content areas. Educators can choose from course topics ranging from Advanced Placement math and science to vocational and foreign language instruction. Schools, educational agencies, and for-profit enterprises continue to expand the Internet-based content available to educators. This expansion will allow schools to effectively match online courses with the abilities, interests, and needs of students.

The second myth suggests that online courses are only for advanced or gifted students. The very nature of Internet-based instruction allows students of all abilities and interests to pursue learning at their own pace. While virtual learning is not for every student and not all Internet-based courses are created equal, online instruction provides educators with options that are not dependent on the hours of a typical school day, available staff, and academic calendar. No longer are counselors limited to the coursework printed in a single catalog; rather, schedules, courses, and topics of study can be designed around the individual needs of students.

The final myth that can discourage the implementation of online courses is that virtual schools will replace the public school system and its teachers. On the contrary, Internet-based instruction should be considered as an alternative method of instructional delivery capable of expanding a school's curriculum. The success of students engaged in online learning still depends upon the support, encouragement, and involvement of teachers, counselors, administrators, and parents.

Delivery Models

Schools considering online learning must determine the type of model or design that is best suited to their needs. Schools can operate two distinct, but related, models in the delivery of online high school courses.

The first model revolves around the delivery of online coursework within a traditional high school setting. This approach allows schools to expand curriculum offerings, eliminate scheduling conflicts, address teacher shortages, and extend learning opportunities to students. Credit can be granted for successful completion of online courses, as it would be for any other course offered by a high school. The major premise of this design is that online courses represent an expansion of the traditional high school. Characteristics of this model include:

- Online coursework is integrated into a traditional high school model.
- Online courses are available only to students enrolled in the high school.
- Online instructors are typically faculty members at the high school.
- Students receive support or assistance from teachers and staff at the high school.
- Schools can receive local and state funding for students if all appropriate laws and regulations addressing enrollment and assessment are met and documented.
- Online courses supplement, not replace, traditional instructional delivery.

The second model that can be considered by schools is the creation of a virtual high school available to students outside of a defined geographic region. In this model, schools deliver instruction and grant credit to students who otherwise would not be attending the local high school. One of the greatest challenges faced by schools establishing a virtual high school is that online courses

About Virtual Greenbush

Virtual Greenbush was established in July 1999 by the Education Service Center-Greenbush (Girard, Kansas) to assist educators in meeting building-level standards of excellence, save money, and exceed student performance standards through a menu of Web-delivered resources, courses, and programs. The creation of Virtual Greenbush was a direct outgrowth of the need to garner the vast resources of the Internet for the expansion of instructional resources, as well as the critical need to address issues such as teacher shortages.

Since its inception, Virtual Greenbush has developed into a comprehensive division of the Southeast Kansas Education Service Center by providing online high school courses, professional development for educators, community technology training, and an array of Web-based technology management systems. More than 2,100 students from 313 schools, 40 states, and 13 foreign countries currently receive instruction from Virtual Greenbush.

The typical Virtual Greenbush student is a female student who has a computer at home but has never taken an online course. She is an A or B student and may be enrolled in a Spanish course. She is a 9th, 10th, or 11th grader who wants to take a course not offered at her high school or not offered at a time when she should could take it. She completes the course from a computer at school.

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actually replace traditional models of instruction. Furthermore, it is the very nature of virtual schools to serve students and other learners whom it may be impossible to serve through any other means.

Granting credit and diplomas to students not enrolled in the local high school creates a range of issues for boards of education and administrators, however. Establishing appropriate graduation requirements, documenting student learning, accrediting coursework, and crafting appropriate policies must be addressed by a virtual high school. Characteristics of virtual high schools include:

- Students are typically not located solely within the geographic region of the high school.
- Homeschooled students and those attending other schools (both public and private) may be able to participate in selected online coursework.
- Online courses are delivered on a "fee for service" basis, and the virtual school cannot generate funding from the district for students located outside of the region or state.
- The virtual school must implement a wide range of practices and strategies, such as toll free help lines and online tutors, to insure that students receive appropriate support and assistance.

Where to Start? Course Development vs. Course Rental

Even in the brief span of their existence, virtual schools have undergone considerable change and adaptation. Significant early trends included virtual schools serving students around the world, the proliferation of dot.com companies, and the Internet explosion. Now the focus is a concentrated effort on the part of schools to determine how online courses can be integrated into existing curriculum and instruction. Issues such as the role of local support, engaging teachers in the instructional process, building a technology infrastructure, and establishing policies that enhance student learning have become the focal points for many school districts implementing online courses.

One of the first issues that must be addressed by school districts turning to online learning is the acquisition of online courses. Schools ultimately have two options for obtaining viable online content: (1) course development by local educators or consultants, or (2) obtaining courses through rental or purchase from an established provider, such as a for-profit corporation, educational agency, or school district. Both approaches have advantages and disadvantages that school districts must carefully weigh. An overview of the comparative benefits of both options is provided in Table 1.

Content Assessment

The evaluation of online content is a critical element of the selection process. Not unlike the evaluation of traditional textbooks or curricula, this assessment process allows schools to gain the ownership, insights, and support from the entire school staff, including teachers, curriculum directors, and technology personnel. Only through such a process can the full success of online courses be realized.

Schools have several options with respect to the course review process. The use of existing curriculum committees and the formation of multidisciplinary teams to assess online courses have both proven to be effective methods of evaluation. Another consideration is including

Table 1
Contrasting Strategies for Content Acquisition

Local Development		Course Purchase or Rental	
Advantages	**Disadvantages**	**Advantages**	**Disadvantages**
• Promotes involvement • Provides long-term solution • Aligns to local standards • Encourages integration of technology	• Requires platform to host courses • Requires considerable time • Calls for developer training • May generate legal issues involving copyright and content licensing	• Offers proven course content • Supplies media/video upgrades • Provides an immediate solution • Usually includes training and other value-added services	• Tends to have higher up-front cost • Makes it difficult to change content • May not align fully with standards

students in the initial course assessment process. As the ultimate end users of online courses, students can provide valuable insights regarding technical features and overall effectiveness.

It is important to note that schools should review more than one course for each content area. Evaluators should realize that the very same content or learning objectives could be delivered using a variety of instructional models, technology, and assessments. It is possible that a school might select more than one online course for any content area to ensure that the needs of all students are met. Key issues, features, and questions that schools should address in the evaluation of online courses are presented in Table 2.

The Implementation Process

School districts using online coursework as part of a virtual school or as an expansion of local curriculum must address a number of distinct, but nonetheless related, issues throughout the implementation process. Successful implementation requires a tremendous amount of planning, preparation, and testing to ensure that the administration, staff, and students fully benefit from online learning. The order in which the implementation process is presented does not imply that one component of online learning is more or less important than the other. In fact, the success of a virtual learning environment is highly dependent on the continuity and consistency among policies, technology, and instructional delivery.

STEP 1

Development of policies and procedures

The nature of Internet-based instruction requires that school districts closely review existing policies and procedures to identify any gaps or inconsistencies between those addressing traditional instruction and those related to online coursework. While many district policies will remain unchanged, online courses do create a learning environment that simply is not addressed by traditional instructional policies.

Table 2
Questions to Ask in Evaluating Online Courses

Graphics and Text	Media and Video	Audio	Newsgroups, Chat Lines, and Bulletin Boards
• Do graphics and pictures contained in the course enhance learning? • Are the graphics and pictures clear and consistent? • Is there too much reliance on text to deliver course content? • Is there a textbook or other material required for the course?	• Do media and video clips contained in the course enhance learning? • Will the media and video require too much bandwidth, resulting in excessive downloading time? • Can the media and video be delivered through a CD-ROM or DVD?	• Can course text be read to the student? • Is the audio contained in the course clear and easily understood? • Are the voices and accents contained in audio clips appropriate?	• Do the newsgroups and bulletin boards contained in the course encourage students to express ideas and promote community with other students and teachers? • Are the newsgroups and bulletin boards secure? For example, is access to the communication features limited to students enrolled in the course?
E-Mail	**Assessments**	**Navigation**	**Internet Links**
• Does the online course or software platform provide student e-mail?	• Is student learning measured through a number of different assessment strategies? • Can the course branch learners into activities and objectives appropriate for their abilities? • Do students have access to continuous progress and grade reports?	• Does the course contain tools and aids that make navigation by students easy and fast?	• Does the course offer links to other Internet Web sites? If so, are the links appropriate for students? • How often are the links updated and monitored?
Virtual Labs, Experiments, and Activities	**Alignment to Standards**	**Evaluation**	
• Does the course contain features that simulate the use of such scientific equipment as telescopes or microscopes? • Can students, either individually or working with an adult, conduct practical experiments at home or school? • Are there project-based learning activities that require the student to work "off line"?	• How does the course align with local, state, and national standards?	• Does the course contain a student evaluation?	

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- **Acceptable use**

Acceptable use policies are absolutely necessary in defining student expectations and responsibilities when taking an online course. NSBA has published a number of articles and books that provide examples of acceptable use policies.[1]

The challenge of developing acceptable use policies for online coursework is to provide the flexibility needed by the administration in the event that a policy is violated. This difficulty is directly related to the consequences that are defined for acceptable use violations. Zero tolerance provisions that, without exception, remove students' Internet privileges may prohibit a student from completing a course required for graduation, promotion, or acceptance into an institution of higher learning. While the intent of such a policy is clear, appropriate use violations may result in consequences for an online student exceeding those that would be applied to a student taking a traditional course. This assumes that a student taking a traditional course can continue to participate in class assignments, discussions, and assessments without access to the Internet. The complexity of this issue is illustrated by an actual situation involving an acceptable use violation (See Vignette No. 1).

Implementation Steps for Online Learning Programs

1. Development of Policies and Procedures
2. Parent Involvement
3. Funding and Payment
4. Review of Technology
5. Student Support
6. Web Development
7. Teacher Preparation
8. Evaluation

- **Assessments**

A frequent criticism of online coursework is that there is no method for a principal, teacher, or counselor to ensure that a student is completing assignments and assessments online without the assistance of another person. This issue can be addressed by developing course content that provides multiple methods of assessment. Another strategy is to use online courses that incorporate discussion boards that allow teachers to identify the writing style, tone, and abilities of individual students. It is recommended students be appropriately supervised when completing major assessments. School districts can define the conditions and environment under which assessments can be taken.

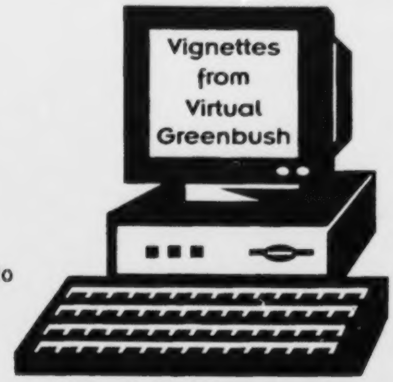
- **Student contracts**

The development of contracts that can be signed by students, parents, and designated school personnel is another means of encouraging academic honesty and responsibility among students. While a student contract represents a symbolic rather than a legally binding document, it can help schools to further define expectations with regard to online learning.

- **E-mail**

Student participation in an online course requires access to e-mail or some reliable means to communicate with online teachers and staff. Districts that have a general rule prohibiting students from communicating by e-mail will need to carefully evaluate and amend such policies to ensure consistency and to ensure that students have access to the tools needed for successful course completion. The importance of e-mail is demonstrated by the incident described in Vignette No. 2.

Vignette No. 1



Situation: Acceptable Use Violation

Implementation Model: Due to the absence of an appropriately certified teacher, the district turned to online courses for physics instruction.

Location of Student Access: School Computer Lab

A student enrolled in an online physics class reported to Virtual Greenbush that two students had written a series of messages on a discussion board that contained inappropriate language and content. The messages were written by sources identified as "anonymous." A review of the discussion board by an online learning specialist confirmed the messages and violation of the district's acceptable use policies.

The discussion board was accessible only to students enrolled in the course. Administrative features of the online course platform allowed that all contributors to the discussion board be identified by name and password.

After consultation with the building principal, the students in question were confronted with the inappropriate messages. The students in question admitted the violation, and their parents were notified.

The acceptable use policy of the district clearly stated that any violation would result in loss of all Internet privileges. The issue confronted by this school is that without access to the Internet, students could not complete the course, which would prevent graduation in the spring and admission to a state university.

Resolution: Concluding that preventing students from graduating and entering college would be excessive punishment, the district allowed the students to continue in the course under the following conditions: (1) students would pay the full cost of the course, and (2) students would have to complete the course assignments on a computer outside of the school. The students were given access to the Internet in the school computer lab for course assessments.

- **Duration**

The length of time a student will have to complete an online course is another policy issue that schools must address. Because most online courses are performance-based, schools can expect students to proceed through coursework at different paces on the basis of their interests, ability, and access to a computer. Schools should consider not only the possibility that a student may not complete an online course within a specified time period, but also the possibility that a student with Internet access from home or a public library can achieve learning objectives well before other students. Providing students with appropriate support and supervision is an important strategy to ensure online courses are completed within a defined school calendar period.

- **Course access**

Schools incorporating online courses to expand curriculum need to address the issue of

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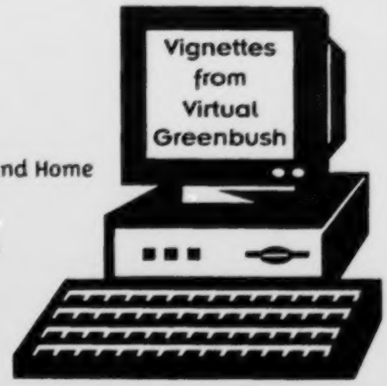
Vignette No. 2



Situation: Student Access to E-Mail

Implementation Model: Curriculum Enhancement

Location of Student Access: School Computer Lab and Home

A counselor reported to Virtual Greenbush that online teachers were not responding to student questions in a timely and effective fashion. An online learning specialist immediately contacted each online teacher in order to identify any reason for delays—including negligence, software or hardware problems, or Internet provider problems.

After verifying that student e-mails were addressed within 12 hours of submission, the online learning specialist researched student access to computers within the school. During that investigation, it was discovered that students were not permitted to send or receive e-mails from the school. This prohibition required that students contact online teachers only during evening hours and on weekends. Complications related to time zones and a lack of access to e-mail during the school day resulted in delays of up to 48 hours between the time a student sent a message and when a response could be received.

Resolution: Students were provided e-mail from school on a controlled basis.

where and how students can access online instruction. Internet access in homes, public libraries, cyber cafes, and businesses allows students to participate in online instruction during evenings, weekends, and holidays. This can be a particularly difficult issue to resolve for schools trying to achieve a productive balance between structuring student access in ways that allow supervision and monitoring while not discouraging those students who excel in online learning at least in part because of its flexibility.

- **Assignment of credit and grading**

Schools are encouraged to use the same approval process as with any traditional course when assigning credit for an online course. Schools should consult with appropriate governing agencies to ensure that Internet-delivered courses meet all requirements. Monitoring traditional "seat time" is often an extremely troublesome issue for schools granting credit for online courses. However, many online course development software platforms can record user access time by individual students. Also, schools can require student logs be completed to make certain that credit requirements are met.

Grading of online courses should be consistent and follow local policies and scales. This becomes particularly important when schools contract with an outside virtual school or provider of online courses for instructional delivery. Schools should be aware of the fact that grading is a local function and should be equitable regardless of how instruction is delivered.

STEP 2

Parent involvement

Engaging parents in the education of students taking online courses can be both rewarding and challenging. Informing parents before enrollment that students will be taking online courses is particularly important, especially for schools that turn to virtual learning to address teacher shortages. Parents need to understand the nature and process of online learning, including the following points:

- Coursework is delivered through the Internet.
- Students are responsible for their learning, as well as their progress through the course.
- The high school will grant credit as it would for any other course.
- Many online courses do not require a textbook.
- Students will have an online teacher to facilitate learning, answer questions, and guide the students.
- Students will have access to additional support, mentoring, and tutoring.
- Coursework will count for graduation.
- Colleges and universities will accept credit from online courses for admission.

It is helpful for schools to provide parents with demonstrations of online courses and give them opportunities to express concerns and ask questions. Encouraging online teachers to communicate with parents and conduct periodic parent-teacher conferences can be a very effective, but sometimes overlooked, strategy to build parent support. The experience of one school that did not inform parents of the nature of online instruction reinforces the importance of consistent communication (See Vignette No. 3).

STEP 3

Funding and payment

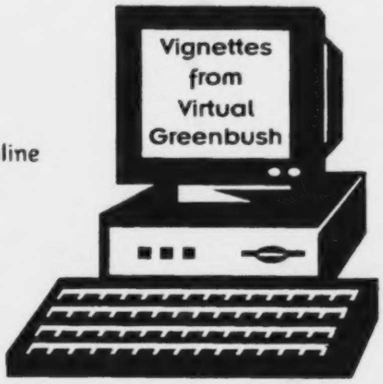
The various online coursework funding models are as diverse as the number and design of courses available to school districts. The cost of online courses that are delivered to students in response to teacher shortages is typically assumed by the school district, including the cost of the course content, teacher, and any supplemental materials or tests. School districts have a number of options available in funding online courses for curriculum enhancement:

- **Scholarships**

Establishing "scholarship funds" allows students of any economic background to apply for support of an online course approved by the school. This process usually involves a written application reviewed by a team of principals, counselors, and teachers. The school selects students considered to be most likely to succeed in the online environment. There are several advantages of such a process:

1. All students have the opportunity to participate in an online course.
2. The process does not prohibit participation by a student who has the ability to pay for an online course.

Vignette No. 3



Situation: Parent Notification

Implementation Model: Due to the absence of an appropriately certified teacher, the district turned to online courses for student instruction.

Location of Student Access: School Computer Lab

Virtual Greenbush received a call from the host school district that parents were concerned about students receiving online courses. Parents of students enrolled in online courses were not notified in advance that instruction was to be delivered through the Internet. School administrators coordinated a meeting that allowed parents to ask questions of Virtual Greenbush staff. The concerns raised by parents included the following:

1. Confusion because there was no textbook
2. Perception that technology used to access online course was outdated
3. Lack of awareness that online courses are facilitated by certified teachers geographically separated from the school

Resolution: The reactive nature of the meeting clearly reinforced the need for schools to address potential concerns of parents before implementing online learning programs. The school continues to deliver online learning with an increased emphasis on parent notification and involvement.

3. School personnel can select students based on established criteria.
4. Parent and community organizations can be encouraged to provide funding for scholarships without being involved in the actual selection of students.
5. Schools can monitor the number (and success) of students taking online courses.

- **Fee basis only**

This payment model places responsibility for the cost of an online course on students and parents. The disadvantage of such an approach is that not all students will have equal opportunity to participate in online learning. Many school districts often require personal payment for coursework when a student has already failed a course that is delivered through traditional means. Schools also have incorporated this model into summer school programming, which allows students to receive online instruction for elective courses that otherwise are not available during the school year.

- **Payment for completion**

This represents a unique model that a select number of school districts across the country have piloted. In this model, school districts pay for an online course after the student provides documentation of successful completion. Many issues associated with this particular model have yet to be encountered, not the least of which are situations involving the refusal of a student to pay for a course due to a failing grade or an incomplete. School considering this model are advised to have policies in place to cover such eventualities.

Payment logistics

Virtual schools established by school districts also must consider the importance of developing a system for collecting course fees. This business design must take into account the need for establishing policies with respect to course payment methods, refunds, and collections. Methods for convenient payment of online courses by students and parents are particularly important and may require the virtual school to establish the means to set up a mechanism for accepting credit card payment of fees. The implementation of a business model to ensure the fiscal sustainability of a virtual school based on a fee-for-service model is particularly complex. Policies and fiscal management procedures of a virtual school should allow the delivery of instruction if payment for courses by students or participating schools is delayed.

STEP 4

Review of technology

Technology coordinators, specialists, and support personnel play an important role in making sure that a school's technology infrastructure and network are adequate to fully support online learning. The need to closely examine the technology infrastructure becomes even more important when entire classes access online courses from computer labs. Schools are encouraged to conduct technology audits of those buildings that will be sending or receiving online courses. The audit should address the following issues.

- **Hosting**

Schools that deliver online courses must ensure that the building has access to adequate bandwidth to deliver content (including graphics and multimedia) beyond what is needed for the traditional network traffic. Local hosting also will need to establish a reliable means for securing and maintaining student data, content, and grades. Many schools will consider the use of third-party hosting of course servers and platforms. While this approach can help to insure server security, fire protection, and bandwidth, external hosting will increase the overall cost of online courses for the school and students. There are a number of considerations to consider when examining hosting issues, including:

1. the number of potential simultaneous users,
2. bandwidth, and
3. potential for expanding bandwidth.

- **Proxy servers and filters**

A common problem in virtual learning programs is incompatibility between online course software and proxy servers. A proxy server intercepts incoming and outgoing messages to a network, thus concealing actual network addresses. It is one type of firewall technique used to prevent unauthorized network access. Schools must fully test access to online courses through a proxy server prior to student use. Filtering software that limits access to legitimate course content can also impede student learning. This is especially true when online courses integrate student activities with Web sites that contain advertising or links to potentially inappropriate content.

- **Workstations**

Technology staff should closely inspect workstations to be used by students. Minimum workstation specifications usually are readily available from providers of online course software and content. Most online courses can be accessed from any computer platform; however, some online courses may require additional software that usually can be downloaded

Vignette No. 4

Vignettes
from
Virtual
Greenbush

Situation: Local Support

Implementation Model: Because of the death of a certified teacher, the district turned to online courses for student instruction.

Location of Student Access: School Computer Lab

Students involved in this situation were faced with two challenges: the loss of a teacher from whom they had received traditional instruction, and the process of "learning to learn online." In response to the potential hardship experienced by students, a classroom teacher certified in a related field assumed the role of mentor to support and expand instruction delivered by the online teacher assigned to the course. This teacher was able to significantly expand the learning experience for students by facilitating classroom experience and activities reinforcing concepts presented in the online course.

Resolution: The implementation of online courses for this district did not occur under the most ideal circumstances. However, the success of students as a result of the caring and commitment of the certified teacher clearly illustrated the importance of local support and local staff who are committed to learning.

from the provider. It is critically important to conduct software downloads or hardware modifications before online courses begin to prevent student frustration and delays.

STEP 5

Student support

Support by schools can be a vital component of student success in online courses. Schools should consider a number of strategies to ensure that students can resolve issues related to course content, navigation problems, and hardware or software troubleshooting. The importance of student support is underscored by results of a recent study of online learning conducted by Virtual Greenbush. The findings indicated that more than 90% of all surveyed students had never taken an online course. Schools must recognize that students must "learn to learn online" in order to increase the likelihood of success.

- **Local facilitators**

Schools can use paraprofessionals, community volunteers, and certified teachers to support students taking online courses. An effective strategy is to name local facilitators to help students overcome the fear of online learning and solve any technical or navigation issues that may arise. It is important to identify facilitators who are positive, possess basic technology skills, and understand the importance of working collaboratively with the online teachers. Many schools use teachers certified in related content areas who can serve as a mentor for students. This approach has been particularly valuable for one school district that experienced the death of a staff member (See Vignette No. 4).

- **Student training**

Another strategy schools can use to support students is to provide on-site training before the online course begins. On-site training allows students to learn course navigation, possible short-cuts, and simple troubleshooting techniques. Many schools have found that hands-on pre-course training enhances the value of written and online course tutorials. Another benefit is the ability to add a "high touch" element to online courses by providing students with increased opportunities to ask questions regarding expectations and the overall learning experience.

- **Other strategies**

The following strategies and resources can also contribute to student success in the online environment:

1. Extended access to computers
2. A toll free help line
3. Online tutoring
4. Electronic newsletters that provide student highlights, tips and tactics, and lists of proven Web sites to help in specific content areas.

STEP 6

Web development and enrollment

A critical issue in delivering of online courses is the process by which students enroll, access information and support, and communicate with teachers. The development of a Web site that serves as a "portal" for a school's online courses is important not only for service delivery, but also to reinforce the concept that virtual learning is an extension of the local high school. This becomes especially critical for schools that contract for the delivery of online instruction. Students and parents who must use a Web site not associated with the local school often become confused about where to turn for support and further information.

Whenever practical and possible, schools and Web designers should work with students and teachers to create a "user friendly" sequence of Web pages for the enrollment process. These pages should have "local" look and feel, with school logos and pictures, for example. Credit information, teacher biographies, and course objectives are important additions to a Web site that help drive home the point that the virtual school program adheres to general high school policies and operations.

STEP 7

Teacher preparation and compensation

Schools planning to deliver virtual instruction should invest considerable resources in identifying, training, and supporting online teachers. The key to successful online teaching rests with the identification of certified teachers who are committed and dedicated to the delivery of instruction through alternative means. Reassigning classroom teachers to virtual instruction without taking into account the interests, motivation, and professional goals of the individual places the success of the virtual school or online initiative at considerable risk.

Characteristics of teachers who are successful in an online environment include patience, positive attitude, flexibility, and the recognition that student motivation and reinforcement online will require different strategies. It is extremely important for administrators and board members to recognize that the skill sets and techniques used by online teachers are different from those of traditional classroom teachers. However, it's equally important to appreciate that neither environment is inherently easier or harder for the teacher. Rather, teachers must effectively use the resources and opportunities available to them to ensure students' success.

While not exhaustive, the following list of topics should be addressed during training for potential online teachers:

1. Course platform and navigation
2. Course content
3. Assessment strategies
4. Additional online resources
5. Student support
6. Grading procedures
7. Parent communication
8. Collaboration with district staff

Schools should give prospective teachers of online courses ample opportunity to try out course features before starting instruction. Encouragement and collaboration among online teachers is an excellent strategy to promote sharing of instructional strategies and techniques.

Virtual school policies need to outline clear expectations for teachers who facilitate online courses. The following topics should be included:

- Timeline for responding to student e-mails and requests
- Strategies for working with parents
- Grading criteria of participating school districts
- Troubleshooting online hardware and software problems
- E-mail etiquette
- Guidelines for working with school administration

Online courses allow schools to incorporate a number of compensation models for teachers. They include:

- Traditional teacher contracts
- Supplemental contracts
- Contracts that provide for payment on a per course basis
- Combination of annual stipends and a per course contract

Many teachers facilitate online courses in addition to carrying out traditional classroom responsibilities. This allows schools to employ more than one compensation model to insure that teachers are adequately rewarded for facilitation of courses that takes place during evening and weekend hours.

STEP 8

Evaluation

Online courses require the same evaluation rigor as any traditional classroom or educational program. Schools can easily incorporate surveys into the course or set up a separate Web page that collects information on student perceptions. Qualitative evaluation designs that allow students to freely comment about their online experience also can be a valuable tool for gleaning information to improve the quality of online instruction.

Schools should be cautious about attempting to make direct comparisons between online and traditional instruction and coursework, however. Keep in mind that relatively few schools ask students to directly evaluate the quality of teacher interaction, instructional design, and content of traditional courses. So, there may be limited data on which to make valid comparisons.

Key Evaluation Questions

- How do students perceive the difficulty of online courses?
- Is student performance in an online course consistent with that of traditional coursework and assessments?
- To what extent do students interact with their online teacher and other support staff?
- What features contained in an online class contribute to learning?
- What are the characteristics of students who are most successful in online learning?
- What is the level of experience students have with online courses?

During the spring semester of 2001, Virtual Greenbush contracted with Steven Mills from the University of Kansas, Institute for Life Span Studies to implement a comprehensive evaluation of Virtual Greenbush. This evaluation represents one of several phases in an ongoing evaluation designed to improve, continuously, the quality of online instruction and services.

One component of the evaluation process developed by the University of Kansas is an online student evaluation form (See Appendix 1). Virtual Greenbush students can complete the form after finishing their course. The evaluation form is launched from the Virtual Greenbush homepage, which gives students easy access to the evaluation. To reduce the potential for unauthorized access to the evaluation form, it is password-protected, with a password provided only to Virtual Greenbush students. The password is changed each semester.

The typical Virtual Greenbush student is a female student who has a computer at home but has never taken an online course. She is an A or B student and may be enrolled in a Spanish course. She is a 9th, 10th, or 11th grader who wants to take a course not offered at her high school or not offered at a time when should could take it. She completes the course from a computer at school.

The student evaluation form was published on the homepage near the end of May 2001. Between May 2001 and February 2002, 112 online evaluation forms were collected from students. Twenty-one evaluations were from the spring 2001 term; 32 evaluations were from the summer 2001 term; and 59 evaluations were from the fall 2001 term. Of the students who completed an online evaluation form during this period,

- 33 percent were male, and 67 percent were female.
- 82 percent of these students had a computer at home, but 91 percent had never taken an online course.

- 51 percent of the students reported that they make mostly A's in school, 28 percent mostly B's, 19 percent mostly C's, and 2 percent mostly D's or F's.
- Students generally accessed the online course from school—76 percent from school and 24 percent from home.

Virtual Greenbush Students	
Grade Level	**Percent of respondents**
12th Grade	11%
11th Grade	26%
10th Grade	28 %
9th Grade	32%
8th Grade	2%
7th Grade	1%
Reason for Taking an Online Course	**Percent of respondents**
Not Offered at High School	37%
Scheduling Conflict	23%
Making Up Credit	10%
Prefer Online	2%
Other Reasons	28%

The grade level of students taking an online course was widely distributed across high school grades. Additionally, there were a number of reasons students enrolled in an online course. The table to the right shows the distribution of students by grade taking an online course and their reasons for taking the course.

The data indicate that, while online course taking may be more a matter of necessity than personal preference, when students do take Virtual Greenbush online courses, they report that instructors are helpful, competent, and knowledgeable. They also consider the workload to be appropriate and the grading system fair. Overall, these evaluations showed that student attitudes and dispositions about online learning tended to be favorable and positive more often than unfavorable and negative.

Students were asked what they liked most and least about online courses. Students overwhelmingly responded that they liked being able to work at their own pace. The least-liked aspects of the online courses focused on technical issues (computers/network not working, slow loading or downloading) and instructional design issues (didn't know what to do, too many buttons, too much reading, not enough teacher interaction).

Mike Bodensteiner (mike.bodensteiner@greenbush.org) is program director for Virtual Greenbush and has held this position since the program's inception. His professional experience includes nearly 14 years of administrative experience with the Southeast Kansas Education Service Center, providing leadership in such programs as the Distance Learning Network, William L. Abernathy Science Education Center, and many state and federally funded grant programs.

Kim Pingree (kim.pingree@greenbush.org) is coordinator of Online Student Services for Virtual Greenbush and responsible for supporting online teachers and students involved in online instruction delivered by Virtual Greenbush. Pingree is a certified teacher and has more than three years experience in the delivery of online coursework and policy development.

[1] For guidelines and examples of acceptable use policies, see the ITTE handbooks, *Legal Issues & Education Technology: A School Leader's Guide*, 2nd Edition (2001) and *Plans & Policies for Technology in Education: A Compendium*, 2nd Edition (2000). http://www.nsba/itte/publicat.html

Chapter 2

Teaching Methods and Staff Development for Online Classes

Elizabeth Pape and Ruth Adams
Virtual High School
Maynard, Massachusetts

Misconceptions about teaching in an online environment are common. One often hears comments, such as "A good teacher can teach in any venue," or "If you can answer e-mail, you can teach online," or even "My school district just decided to start its own virtual school, and I am supposed to teach my course online next month." The danger in all of these views is the notion that all teachers can easily transplant their face-to-face teaching skills into the virtual setting without appropriate training. Nothing could be further from the truth.

As with any new endeavor, teachers need to be trained in the pedagogy, design, and delivery of online classes. Effective design and delivery of online courses require time and professional development. A useful comparison may be to recall the difference in approaches between the school systems that have effectively integrated technology into the curriculum and those that have not. We can all remember well the failure of the many school systems that spent thousands of dollars purchasing computers but did not provide adequate training to their staffs. The "expensive pieces of plastic" sat in their boxes or were used for rote drill-and-practice or "educational" games. Neither the students nor the school systems benefited. However, those schools that spent time and money training their teachers in effective technology integration were able to reap the rewards of a technology-rich environment almost immediately. We must not to repeat the same mistake now with virtual teaching and learning.

Online vs Face-to-Face Teaching

It is first of all necessary to acknowledge the difference between online teaching and learning and face-to-face teaching and learning. True, many of the skills necessary for effective teaching (mastery of subject, quality curriculum planning, sense of humor, perceptiveness, ability to multitask, providing timely feedback, etc.) must be present in any milieu in order to have effective teaching and learning take place. But how does a teacher learn to be perceptive or display an appropriate sense of humor in an online environment? How does a teacher learn the tricks of the trade of online classroom management? The dreaded "teacher look" doesn't work when your student is five states away!

Some definitions of online teaching may be necessary, starting with what effective online teaching is not. Effective online teaching is not:

- Traditional distance learning—the "talking heads" and one-way communication of the satellite distance learning programs of the eighties

About Virtual High School

The Virtual High School (VHS) is a nonprofit collaborative of over 150 high schools across the U.S. and abroad. The Virtual High School proposal submitted in 1996 to the Technology Innovation Challenge Grant Program and funded by the U.S. department of Education for $7.5 million identified an overarching goal for the Virtual High School: "To create a national consortium of schools that expands members' curricular offerings through a wide range of excellent, current, innovative network-based courses that support reform."

VHS was recognized in 2001 as winner of the Stockholm Challenge Award for establishing the standard for quality online courses. The Stockholm Challenge Award focuses on the positive effects of the information society. In making the award to VHS, the international jurors stated that, "Virtual High School has been tested in operation, has been transferred widely and it is sustainable. Many countries could attempt this kind of initiative to provide a quality option to students at almost any level and from any background. The jury was strongly impressed by the project's cooperative model that gives schools access to resources and training in exchange for them creating and sharing their own resources online." The jury went on to say," The project provides education resources to under-served places and people. It is changing the way teachers think about teaching and getting scarce educational resources to students anywhere. It provides new opportunities to deaf and physically disabled students, to small rural schools, to at risk and gifted students."

In VHS, scheduled asynchronous courses stress the development of a community of learners. Each school contributes one or more teachers who, with the help of teacher mentors and instructional technology experts, design and offer innovative courses over the Internet. In the VHS model, the school also provides a site coordinator who handles administrative and technical support to local teachers and students and supervises local students enrolled in VHS courses. Each school in the cooperative can enroll 20 students (per semester) in Virtual High School NetCourses for each section of a teacher's time it contributes to the pool. This enables schools to offer a wide range of otherwise unavailable courses to their students. Quality is maintained by requiring each virtual teacher to successfully complete a graduate-level professional development NetCourse on the design, development, and instruction of online courses. Virtual High School continues to work to increase the number of participating high schools in order to reduce membership costs to its schools.

Evaluation reports and summaries are available on the VHS Web site.

Virtual High School, Inc. • 3 Clock Tower Place, Suite 100 A • Maynard, MA 01754 • Phone 978-897-1900 • Fax 978-897-9839 • http://www.goVHS.org

VHS-at-a-glance

- Number of courses in 2001-2002 — **134**
- Number of schools in 2001-2002 — **183**
- Number of students in 2001-2002 — **1733** (fall); **2003** (spring)
- Number of states with participating schools in 2001-2002 — **24**
- Number of foreign countries with participating schools in 2001-2002 — **11**

— Source: http://www.govhs.org

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- Correspondence courses—the one-on-one "teacher sends the information, student responds" model
- Chat rooms—The synchronous nature of chat rooms makes them especially ineffective for students in different time zones.
- E-Groups or e-mail-based programs—Such one-on-one designs prohibit the building of an effective community of learners and are essentially teacher-centered.

Effective online teaching is characterized by:

- A community of learners—Students are in a class with other students working through the curriculum asynchronously on an established schedule.
- Student-centered curriculum—A discovery approach is used, with students finding the answers to essential questions in a project-oriented model.
- Teachers as moderators—The instructor is the "guide on the side" as opposed to the "sage on the stage." Student-to-student interaction is fostered and encouraged.
- Asynchronous interaction—Using a threaded discussion model, students are able to interact and complete their assignments during a fixed time period but at a flexible "anytime, anywhere" pace.

In the virtual classroom, asynchronous communication and threaded discussion groups allow students to reflect on one another's discussions and empower those students who need more time to craft a response. Students who may be too hesitant to actively participate in the face-to-face classroom are often able to flourish in the online class.

Qualities of Effective Online Teachers

So what type of teacher makes a good online teacher? Who should districts recruit as an online teacher? As the field of online teaching is relatively new, and as the work is demanding, administrators need to carefully consider which teachers are likely to be effective in this new environment.

Interestingly enough, "computer gurus" are not the obvious choice. As most online delivery systems are fairly user-friendly, teachers with even modest computer skills can usually handle the technical aspects of delivery. The qualities that are necessary include: a dedicated work ethic, a risk-taking attitude, an attention to detail, and the desire to succeed in a new venue. Enthusiasm for the subject material, the desire to update professional skills and the willingness to try new things seem to be the deciding factors in determining which teachers will be successful in developing and delivering effective online courses.

Training and Professional Development for Online Instructors

Once the school system has identified a likely candidate for online teaching, how does the teacher obtain the professional development needed to learn how to develop a course for online delivery? As mentioned earlier, the number one mistake a system can make is to fail to recognize that teachers need to be trained to translate their face-to-face courses into effective online learning opportunities.

Teachers also need to acquire a new "bag of tricks" that work in cyberspace. Modulating one's "voice" in order to allow one's personality to come across when one never actually meets the students is an art that online teachers can and must learn. It takes practice to design activities so that the students in the class, who may come from twenty different states or countries, get to know one another and feel comfortable interacting, but this is a skill that can be learned. Equally important are designing the curriculum sequentially and providing the necessary navigational directions so that the course is as transparent as possible to the student. Developing activities that encourage student interaction may sound simple, but it is a skill that online teachers need to learn. Providing timely and appropriate feedback is as important, if not more important, in a virtual learning environment as it is in a "regular" classroom.

Profile of a Successful Online Teacher

Many of the teachers who have been pioneers in the field of online teaching are senior staff members, with 20 or more years in the profession, who are looking for new ways of updating their skills and adding "spark" to their professional lives. An example of an outstanding online teacher is Marsha West.

In 1996, when Concord Consortium's Virtual High School© started, West was on the verge of retiring from her English department. Starting something new professionally was the last thing on her mind. However, the thrill of learning a new method of teaching and the possibility of reaching a new audience helped rejuvenate her both personally and professionally. "[Often] kids work with a lot of bored teachers, teachers who are tired, burned out, discouraged, and down to bottom line survival," West says. "This group of teachers [in Virtual High School] tends to approach what they're doing with so much enthusiasm, and I think that's got to have an effect on the kids." West subsequently delayed her retirement and has flourished as an online instructor.

Teacher development models

Clearly, a major factor in providing quality courses is maintaining high teacher training standards. What should such training entail? An effective model for online teacher training includes instruction in online pedagogy. Teachers learn to moderate online discussions, facilitate group and project-based activities, and assess student learning in an online environment.

As in any effective teacher training model, teachers must learn by doing. An effective online teacher preparation course needs to be conducted online, so that the teachers get a sense of what it is like to be a student in a virtual classroom and experience for themselves the activities necessary to promote community building, successful group work, and active participant interaction. This is not something that can be done overnight.

The Virtual High School (VHS) trains teachers to develop and teach effective online classes in the Teachers Learning Conference (TLC), a 26-week, 12-credit graduate course. This course is conducted entirely online, and participants report that it takes 15 - 20 hours per week of active involvement in order to "pass" and have their courses meet VHS standards. During the TLC, teachers learn the effective pedagogy of online course development and delivery, and actually create a semester-long online course ready for delivery to students the following year.

An alternative method is to train teachers to deliver online courses that have already been created using appropriate standards for online course design. This method is achieved in

VHS through the NetCourse Instructional Methodologies (NIM) course, a 13-week, six-credit graduate online course. In NIM, teachers learn the pedagogy of effective online teaching and learn to modify and deliver a course that has been identified as especially effective and experienced high student demand.

Note that in the VHS model, considerable time and energy go into the certification of online instructors. Teachers must "pass" a semester-long online course in order to be able to deliver an already developed and approved course, or must spend an entire school year learning to develop and teach a new course. These courses are evaluated according to nationally recognized standards of quality online curriculum and delivery, and no teacher is allowed to teach in VHS without going through this certification process.

Successful completion of the TLC, along with developing a course that meets all of our design and delivery standards (the course is evaluated in six different stages during design and must pass all stages to continue) certifies teachers to teach in VHS. The standards developed by VHS reflect the national standards for online high school courses proposed by the National Education Association (NEA) in the report, *Guide to Online High School Courses*, which delineates standards for online curricula, instructional design, teacher preparation, and more. VHS collaborated with NEA and other national education organizations, including the American Association of School Administrators and NSBA, on the project.

Some online course providers have no certification process in place and provide minimal training for online instructors. Still other programs offer "packaged" courses that are monitored, in some cases, by individuals who are not certified teachers. School districts need to examine the quality of the online curriculum and the credentials of the online instructors to be sure that their standards are being met.

Accountability and the Online Instructor

No brick and mortar school worth its salt allows new teachers to teach without an established process of teacher supervision and evaluation. Just as non-tenured teachers are observed and evaluated more than professional status teachers in traditional schools, the same must also be true in the virtual classroom and/or cyberschool.

Unfortunately, few local online initiatives and few for profit dot.com providers of online courses have such a system of supervision and accountability in place. A system of continual observation and constructive feedback is necessary to ensure quality. In the Virtual High School model, faculty advisors and delivery administrators monitor teachers on a weekly basis during the first year of online instruction. Evaluators need to provide weekly feedback to the teacher, thus ensuring a positive and successful experience for the students and teachers alike. Any online course delivery needs to have such supervision and accountability measures in place in order to guarantee effective teaching and learning.

Administrative Issues

The school district now has a teacher who has been trained in online pedagogy and delivery. The teacher has developed a course that is rich in content and meets or exceeds national standards. Now, how does the individual school system ensure that the students in the class are receiving a quality experience equal to what they would receive in a face-to-face course within the district? How are issues like progress reports and grades handled? How does the student's home district ensure that the student is actually attending the virtual class and contributing on a level that will ensure success?

Monitoring student progress

An online course must incorporate a means of informing site-based administrators of students' progress and a safety net of face-to-face contact in order for most high school students to succeed. The average high school student, like the average adult, will tend to let issues slide that are not "in their face" every day. Students are easily tempted to save till last work for virtual courses since they don't have to face teachers and classmates as often. Therefore, a site-based teacher must be responsible for student accountability and advocacy.

> *"An online course must incorporate a means of informing site-based administrators of students' progress and a safety net of face-to-face contact in order for most high school students to succeed."*

Again, Virtual High School, since its inception as a U. S. Department of Education Technology Challenge Grant recipient, has established a method by which students are accountable and protected. The role of the site coordinator is a crucial one for any school system contemplating online education. In the VHS model, a teacher at the student's home school is responsible for monitoring the progress of the students in any online course. The site coordinator is the faculty contact for the online instructor. Site coordinators are responsible for expediting the delivery of course materials, troubleshooting technical issues, monitoring progress reports, and advocating for individual students when the need arises. The site coordinator is also the faculty conduit who arranges, when necessary, contacts between and among student, parent, school administrator from the student's home school, and the online instructor. Without this vital liaison, virtual classes are a chancy endeavor, at best. In the VHS model, site coordinators undergo an online training course and are in weekly contact with VHS Central on matters related to student and faculty accountability.

Personnel and contract issues

Personnel and contract issues related to teaching in a virtual school are a serious matter, not only for organized professional educators, but also for any district contemplating the inclusion of online courses in their course offerings. Two important concerns must be addressed: teacher certification and equitable compensation, and working conditions for online educators.

In some cases, online course delivery is outsourced to dot.com providers. In this scenario, school districts must be vigilant to ensure that teachers delivering online courses to students under their charge are certified in their fields and that there is a procedure in place for supervision and evaluation. Likewise, the question of equitable salary and benefits for the online teacher of an outsourced course should be monitored.

There is the fear (sometimes voiced and at others implied) among the professional teachers organizations that online providers will replace certified teachers working under a collective bargaining agreement. In outsourced online course delivery, there is some basis for such fears, and the potential for misuse is obvious.

On the other hand, collaborative models such as Virtual High School's provide all of the protection and equity of the local collective bargaining contract to the individual teacher and school district. Each VHS online instructor is a member of the local teachers' association and is governed by the provisions of the local contract. The same is true in any similar model where certified teachers offer approved courses as part of their site-based course load. VHS teachers are assigned their VHS course as one of their scheduled courses (in most school systems it is one-fifth of the teaching load) and are paid accordingly by the local school district. The local contract governs the teacher's salary and working conditions.

However, online teachers do need to be aware of their rights and responsibilities and need to actively negotiate for the necessary preparation time, technology access, and support that their roles as online teachers demand. This is a new area of contract negotiations that is currently evolving in many systems.

Intellectual property issues

Similarly, teachers who develop online courses, and the school systems that support those teachers during the development and delivery stages of those courses, also need to be aware of relevant copyright and ownership issues. As with any intellectual property, ownership of such information should be covered by contract.

While the individual teacher retains authorship rights to the course, the contract signed by all VHS teachers gives VHS ("the Company") the right to use, publish, and reproduce the course:

> The School [District/System], on behalf of itself, the School and each teacher who develops a VHS NetCourse for the Company, hereby grants to the Company a perpetual, worldwide, freely assignable, royalty-free and irrevocable license to reproduce, publish and otherwise use the VHS NetCourse, and any and all NetCourse Materials in any medium or manner and for any purpose the Company may from time to time elect. The Company has full authority to maintain, archive and dispose of the electronic files which make up each VHS NetCourse. http://www.govhs.org/Pages/Main+Office-Want+to+Join+(TLC+Application)

Copyright Ownership

In most cases, the owner of a copyright is also the creator of a copyright. However, when a work is prepared by an employee within the scope of his or her employment the employer, rather than the creator, retains the exclusive rights of ownership. The work is considered a "work made for hire." In such cases, the owner of the copyright may be an individual or an entity, such as a local board of education. The United States Copyright Office has stated that works such as a newspaper article written by a staff journalist for publication, a software program created by a staff programmer for a computer corporation, or a musical arrangement for a music company produced by a salaried arranger on staff would be examples of works made for hire. In general, a court will examine: whether the employee's status is related to the nature of the work that has been created; whether the work performed by the employee is related to the employer's regular business; whether the employer withholds taxes for the employee; and whether the employer has control over the employee. However, employment alone is not a sufficient condition to deem something a work made for hire.

Boards of education, like other employers, have the option of granting copyrights to their employees even when the works would normally be considered works made for hire. Any such option should be clearly noted in your school board's policy. Given the current interest in developing "virtual curricula" and "virtual classes," perhaps shared ownership or royalty payments could be considered. These approaches could provide incentives for teachers to spend the considerable time required to learn online instructional techniques, understand how various software operate, and actually teach online.

Reprinted from: Legal Issues & Education Technology. Second Edition. Edwin Darden, Editor. 2001. Alexandria, VA: National School Boards Association.

Both teachers and the host school systems that are supporting teachers with released time or compensatory time while courses are being developed have a stake in the ownership of such courses. Instructors who develop and create original material should always retain their rights as authors. Thus, any material that the individual teacher has authored should not be sold to a for-profit entity without remuneration to the author. Unfortunately, as this field is so new, no national framework currently exists to monitor such intellectual property rights.

Individual school systems retain a proprietary interest in any course developed on school time—i.e., released time during which the individual teacher was compensated by the school district. In this way, individual school districts also have a stake in the resale of any course designed and developed by an employee while on the clock. It is the responsibility of individual teachers and school systems to protect their ownership rights to such marketable materials.

Conclusion

More than one model exists from which school systems can choose for delivery of virtual classes to their individual districts. It is in the best interest of all parties to be informed about their options and to know the right questions to ask before buying into any model.

Clearly, the central question should be about teacher training. Online teachers must be trained to teach in this new venue. The training must be of sufficient depth and breadth to make the educator aware of the pedagogy behind effective online instruction and delivery. The teacher must be comfortable and experienced with the medium and have an established support network. Finally, there needs to be an established supervision and accountability procedure that is clear to everyone involved in the process.

Effective online course development and delivery does not happen in a vacuum. Technical support, supervision of delivery, and administrative help are necessary for any online program to succeed.

Liz Pape (LPape@goVHS.org) is the CEO of VHS, Inc. She has experience in the private and federal sectors and as an entrepreneur. She served as the grant administrator for the Virtual High School Technology Innovation Challenge Grant and has overseen VHS's transition to a nonprofit corporation.

Ruth Adams (RAdams@goVHS.org) is the Virtual High School's dean of curriculum and instruction and is responsible for the supervision of all online curriculum content from course design through delivery. A professional educator with 28 years experience teaching on the secondary, college, and graduate school levels, Adams is also responsible for the supervision of VHS teachers and site coordinators.

Chapter 3

Profiles of Online Education Programs in Technology Leadership Network Districts

Anne Ward

Research, Funding, and Commitment Lead to Success of Virtual Schools

Telecommunications technology can expand student opportunity to encompass anytime, anywhere, any pace learning. But virtual schools have high price tags and require careful research and education leadership's full commitment in order to succeed. While not a scientific sample, the seven virtual school programs profiled in this chapter illustrate the special efforts virtual schools require and the benefits they can deliver.

What are the challenges for education entities that seek to establish their own virtual schools? Initial and sustainable funding tops the list for the seven in our sample. Accommodating the paradigm shift requested by virtual schooling ranks next: acceptance and a sense of ownership of virtual schools among those rooted in traditional schooling; new contracts provisions and understandings with teacher unions; new policies and personnel practices; and new accountability demands.

For the largest of the profiled virtual schools, Salem-Keizer (Ore.) Public Schools' 1,300-student SK Online, accommodating growth that has outstripped anticipation is the greatest challenge of all. However, for the 57-student eHigh School of Cobb County (Ga.), the chief challenge remains "educating our community of learners about the eLearning opportunity," says Becky Nunnally, coordinator of eLearning@Cobb.

Growing online enrollment

Virtual schooling is a relatively recent phenomenon, and most of the schools mentioned here are still seeking sustainable funding. Four programs give start-up dates in 1999-2000 and three in 2000-2001.

All are committed to increasing student opportunity by enriching and supplementing existing curriculum. But who they serve depends on the scope of the sponsoring education agency and how far they choose to open their online school doors.

The Colorado Online School Consortium offers high school-level courses to its 65 member school districts in the state. Partners to Access Virtual Education (PAVE), a collaborative of Pennsylvania school districts, educational service agencies, state education agencies, and online providers, lets local school districts decide who is eligible to take its courses for grades 8-12. One local district has opened PAVE course offerings to homeschooled students and other students outside the public school system.

Several individual school districts make online schooling available far beyond district borders. Wichita Public Schools USD does not serve public school students, but instead targets all of Kansas's homeschooled K-12 learners with Wichita eSchool, fully funded by state FTE per-student allocations. Michigan's Oakland County Schools offer Oakland Virtual Connection services to high school students statewide, including those who are homeschooled. And Oregon's Salem-Keizer Public Schools' SK Online supplies courses for students in grades 3-12 worldwide who seek educational acceleration, remediation, and resolution of scheduling conflicts and credit deficiencies.

That global scope gives SK Online the largest enrollment of the seven profiled virtual schools initiatives: 782 in 2000-2001, projected at 1,300 for 2001-2002. Pennsylvania's PAVE expected more than 700 students in 2001-2002; COSC has 350; and the Wichita, Plano, and Oakland programs each enroll between 175 and 260 students. Fewer than 60 students study in eHigh School of Cobb County.

Making virtual schooling equitably accessible is on these programs' agendas, but few have fully addressed the issue. Most attempts thus far focus on equipment access and tuition assistance. SK Online offers tuition subsidies, lends computers, and supplies computer labs at various locations throughout the district—some with lab assistants who can aid non-English speakers. The program also assists with tuition subsidies and bus passes to help students get to the labs. Cobb County's eHigh School offers free courses for home-bound and hospital-bound students.

Profiled Technology Leadership Network Members

- **Colorado Online School Consortium**
  Monte Vista, Colorado
- **eHigh School**
  Cobb County School District
  Marietta, Georgia
- **Oakland Virtual Connection**
  Oakland Schools
  Waterford, Michigan
- **Partners to Access Virtual Education (PAVE)**
  Lancaster-Lebanon
  Intermediate Unit
  East Petersburg, Pennsylvania
- **Plano ISD eSchool**
  Plano Independent School District
  Plano, Texas
- **SK Online**
  Salem-Keizer Public Schools
  Salem, Oregon
- **Wichita eSchool**
  Wichita Public Schools USD
  Wichita, Kansas

All profiled virtual schools supply regular high school-level courses—that is, required or elective courses normally offered by the student's local school—as well as courses otherwise unavailable at students' local schools. Six offer Advanced Placement courses, and four make remedial courses available. Only two have high school diploma programs.

Popular online high school-level courses are diverse: basic courses, such as American government and algebra; enrichment studies in Web design and the history of the Holocaust; courses, such as Latin, that may not be available locally; and Advanced Placement courses in physics and computer science.

For students in junior high school or middle school, three programs supply courses: PAVE and SK Online (with highest enrollments in math classes) and Wichita eSchool (providing the gamut of studies required in homeschools). Only two offer elementary-level courses: SK Online (math only) and Wichita eSchool (dipping down even to kindergarten theme units).

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Online teachers and courses

Online course teachers generally are drawn from school district faculty but can include independent teachers and consultants. Cobb County's eHigh School recruits from its pool of retired teachers, as well as from current staff.

Beyond excellent teaching skills and knowledge of their subject areas, virtual school teachers are expected to have attitudes and awareness compatible with online education. Plano ISD eSchool teachers must get a school administrator's recommendation attesting to their teaching skills and their interest in and commitment to online instruction. Wichita eSchool looks for strong communication skills. Technical skills are "nice" but "not imperative" for Wichita eSchool's new teachers. To teach for Oakland Virtual Connection, teachers need a "willingness to learn or expand online skills."

Most of the seven virtual schools rely on their teachers to develop at least some courses, and three schools use district staff exclusively. The vendors used by the programs that do purchase courses include Florida's Virtual High School, Intelligent, Scholar's First, Apex, class.com, Keystone National High School, Education Option, Boxermath.com, and Academic Systems.

Online learning is not a place to hide a struggling teacher. Online learning exposes all strengths and challenges that a teacher has with curriculum, assessment, and instruction.

All of the online schools are Web-based. Some supplement Web courses with CD-ROM; hard-copy texts; and face-to-face orientations, labs, CPR training, tests, or weekly class meetings. Student/teacher lines of communication include e-mail, bulletin boards, and telephones.

Systems supporting the online schools include Blackboard and the Jones Knowledge e-education platform. Using Blackboard, Wichita has created and embedded 500 teaching videos into its courses.

Training teachers to teach online is a key factor in school success. Besides overall excellent teaching skills, online teachers need special training in "using and manipulating the course delivery system, establishing and maintaining an online relationship with students," and "motivating and monitoring online students," according to Plano's Cathy Galloway.

Face-to-face training and technology-based media are employed. Wichita eSchool starts professional development for online teachers with a two-week workshop each June, which includes training in course development. Teachers learn to use video carts and create their online lessons, working in grade-level and subject-area teams. As teachers continue to create their courses at home over the rest of the summer, instructional videos serve as refreshers.

The Colorado Online School Consortium includes online course work from Connected University in its professional development program for online teachers. The PAVE program in Pennsylvania includes online mini-courses and computer-based training in its professional development offerings. Oakland Virtual Connection not only has an online professional development course but also asks teachers to learn the ropes by participating as students in existing online courses.

Funding

School districts featured in this chapter fund virtual schools chiefly from their own budgets, but grants have provided start-up funds for some. Tuition helps to cover costs; however, most indicate that student tuition covers only a portion of costs.

Actual cost-per-student for a one-semester course averages about $300 for district-developed courses and $325 for commercially developed courses, but students generally pay less. For within-district online courses, student fees range from free to about $250. If they are enrolled outside of the course-developing district, they might pay as much as $300 or perhaps have their own school district covering a $100 fee in some cases. The homeschooled students of Wichita e-School pay nothing but an annual textbook rental fee of $55.

Evaluation

Virtual schools' evaluation techniques range from formal surveys to tracking of student grades, attendance, and test scores. The North Central Regional Education Laboratory evaluates Oakland Virtual Connection. Participating school districts evaluate PAVE. SK Online looks at census information and survey data, and Plano ISD eSchool considers student/parent feedback and an e-mail log of correspondence in its evaluation process.

Recommendations for education leaders

Leaders of the virtual schools profiled in this chapter had several recommendations for their peers in school districts that are considering opening their own virtual schools. They include:

- making a financial and attitudinal commitment to the long haul;
- conducting thorough, up-front research;
- learning from other virtual schools that are already operating;
- participating in relevant conferences;
- recognizing the high costs of serving even a baseline number of students;
- considering course leasing as an alternative to district course development;
- thoroughly researching vendors and course content; and
- considering the use of outside consultants.

Other tips include developing a marketing strategy, involving critics as well as proponents in program planning, considering unions' perspectives, and developing virtual school policies.

School board members should also review existing online policies, approve a flexible policy for their own district, invite teachers and students to share their thoughts about online schooling, and enroll as students in online courses to get a feel for the experience, suggests Jan Van Dam, assistant superintendent for resource management of Oakland Schools in Michigan. Among the seven programs, only one—Plano ISD eSchool—has developed a specific online education policy although local districts participating in Oakland Virtual Connection have such policies. (See the profile of Plano ISD eSchool later in this chapter for the district's policy)

"Districts need to be aware that participation in virtual education will not necessarily save them money and/or staff, but will provide their students with experiences that are becoming more and more essential ...," according to leaders of PAVE.

"Go for it!" suggests Shawn Morris, administrative coordinator of Wichita eSchool. "It is a lot of hard work, but it is well worth the effort. You are providing another way for students to learn, and in doing that you are expanding your reach to your community.... There are always students who fall through the cracks, and online courses may be just what some of those students need to get their education."

Recommendations for Schools & Districts

- Form an advisory board to establish policies and procedures.
- Attend conferences focused on K-12 online learning.
- Include union representatives in planning and implementation.
- Employ full-time teachers to develop and teach courses.
- Evaluate efforts formally.
- Develop a marketing strategy.
- Strive to offer outstanding courses taught by excellent teachers.
- Develop a prerequisite course to teach students navigational skills.
- Plan relevant training and mentoring for teachers who will be developing and/or teaching online courses.
- Organize a cadre of leaders with the heart, head, and endurance to see the project through over the long haul.
- Consider leasing courses through a private provider if your district is small or has limited resources.
- Involve all stakeholders (including users, concerned district personnel, and decision makers) in the planning process. Include potential critics as well as likely supporters
- Determine, at an early stage, the willingness and ability of your district to financially support and maintain the program. A baseline infrastructure and financial support need to be in place whether there is one student or a thousand students.
- Build on the success and experience of existing online programs. It is not necessary to develop from scratch every element of the online endeavor if existing programs, courses, and practices might benefit your initial proposal and subsequent program.

Recommendations for Boards

- Develop a leadership core willing to support the project over time.
- Provide fiscal and other resources needed for success.
- Begin by assessing the district's curriculum to see if there are unmet needs that can be addressed by distance learning.
- Include district curriculum leaders at the early planning stages.
- Expand board members' knowledge of the potential of online learning.
- Enroll in an online course as a student.
- Take into account the implications of union contracts for program development and consider strategies addressing problem areas.
- Review existing online policies.
- Approve a flexible online policy.
- Invite teachers and students to share their thoughts on online teaching and learning.

Profiles of TLN Virtual School Initiatives

The information included in the following profiles was supplied by Technology Leadership Network members who provided responses to ITTE's January 2002 invitation to share information and lessons learned from their experiences planning and implementing online education programs. Aside from formatting and edits for style and clarity, responses to each item in the profiles are those given by site representatives. See Appendix 4 for the data collection form used to gather information.

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Monte Vista, Colorado

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Virtual school start date

1999-2000

Mission statement

The mission of the Colorado Online School Consortium (COSC) is to provide high-quality, affordable, standards-based online learning opportunities for students, teachers, administrators, and others involved in education in Colorado.

Grade levels

Grades 9-12
Expanding to grades 6-12 in 2002-2003

Enrollment

2001-2002 — 350 students

Eligibility criteria

- Any high school student from one of our 65 member districts is eligible for enrollment.
- A district becomes a member by paying a $500 fee.
- Homeschooled or unaffiliated students may access courses by paying a higher rate.

Challenges

Start-up challenges included:

- Securing funding
- Creating organizational infrastructure
- Developing high-quality coursework suitable for online delivery
- Finding quality instructors experienced in online pedagogy.

Current challenges include:

- providing for growth
- securing sustainable funding

Funding

- The COSC currently is funded through a Technology Learning Challenge Fund grant.
- Participating districts pay $100 per student/course/semester to offset expenses.
- Sustainability funding is sought through the political process.

Cost-per-student

- COSC charges $100/student/course/semester, which is paid by the student's district.
- Actual costs average about $300 per course.

Equity

Most COSC students access coursework via school computers, which ameliorates the equity issue.

Course development

Courses are developed by those who are going to teach them, in conjunction with external consultants.

Instructional delivery methods

Web-based courses are delivered via the Jones Knowledge e-education platform.

High school curriculum

- Regular courses (required and elective courses normally offered by the student's local school)
- Advanced Placement courses
- Courses not available at the student's local school

The top three (i.e., selected most frequently) virtual courses chosen by students:

- Latin
- AP physics
- Web design

Virtual school teachers

COSC teachers are a combination of independent and district-employed teachers.

Professional development

- Teachers receive individual training and tutoring from COSC staff.
- Teachers also complete online coursework from Connected University.

Evaluation

- COSC uses a comprehensive assessment instrument and process.
- Calculation of student success rates is also a measure.

Recommendations for schools and districts

Organize a leadership core with the heart, head, and endurance to see the project through over the long haul.

Recommendations for school boards

- Develop a leadership core willing to support the project over time.
- Provide fiscal and other resources needed for success.

Other

More than 60 school districts are members of COSC, with membership expected to reach 70 by the start of 2002-2003.

TECHNOLOGY
LEADERSHIP
NETWORK

eHigh School
Marietta, Georgia

District
Cobb County School District, Georgia

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URL: http://www.cobbk12.org/~elearning/

Virtual school start date

January 2001 - Cobb County School District (CCSD) began supporting the delivery of Web-based courses developed by other organizations through the eLearning@Cobb Web site.

Summer 2001 - The district began offering Web-based, required high school courses developed by Cobb County School District teachers through the eHigh School program using a Blackboard server.

Mission statement

The mission of eLearning@Cobb is to provide alternative instructional delivery methods to meet the needs of all learners.

The goals are: (1) to increase academic achievement by developing and providing academic courses online, and (2) to provide quality online professional development for Cobb County School District employees.

The Cobb County School District has made a commitment to provide alternative instructional delivery methods to meet the academic needs of all students. Focus to meet these needs will be in the areas of remediation, acceleration, and enrichment.

Grade levels

High school — grades 9-12

Enrollment

2001 - 2002 — 57 students
2000 - 2001 — 8 students

Eligibility criteria

- eHigh School courses are open to all Cobb County School District students.
- Students from outside the county and private school students may participate with approval from their local schools.
- Homeschooled students may not participate in the program.
- Students must have a computer, Internet provider, word processing program, and some technology skills.
- Students are required to complete an online survey regarding their technology skills and personal study/organizational skills.
- Guidance counselors must approve all student applications.
- All students are required to participate in an eHigh School student orientation that discusses characteristics of a successful student, frequently asked questions, student participation, online manners, and the skills to navigate our online platform, Blackboard.

Challenges

The biggest challenge is educating our community of learners about the eLearning opportunity. We have found that most of our students and their parents learn about the program through word of mouth. Although we have our own Web site, have distributed hundreds of student brochures, and have made numerous presentations to local school administrators and guidance counselors, we still are not reaching enough students and parents.

Funding

The Cobb County School District funds the eHigh School program.

Cost-per-student

- Students within the Cobb County School District pay $250 per one-semester course.
- Students from outside the district and private school students pay $300.

Equity

All hospital-bound and home-bound students are eligible to participate in the program free of charge.

Course development

- All courses are developed and taught by Cobb County School District teachers and correlate to the objectives of the Georgia Quality Core Curriculum and the Cobb County School District.
- Teachers receive training in the pedagogy of online course development and instruction.
- Courses are developed in teams composed of two teachers and a project director.

Instructional delivery methods

- Courses are delivered through a combination of face-to-face and Web-based instruction.
- All students are required to participate in a student orientation (face-to-face or online).
- Final exams and end-of-course tests are given on a face-to-face basis.
- The health course requires students to attend CPR training offered by the school district or through the Red Cross.

High school curriculum

High school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)
- Advanced Placement courses
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) courses chosen by students:

- American government
- Principles of economics
- Health

Virtual school teachers

- We use teachers currently on contract, full-time and half-time.
- We also recognize that our retired teachers are a rich resource for our program, and we recruit from that population.

The following eligibility criteria are used to select teachers for the eHigh School program:

- The teacher must have current Georgia certification at the appropriate level and content area and have experience teaching in that area for at least two years in Cobb County.
- AP faculty must have previous experience teaching an AP course.
- Each course will provide appropriate teacher-to-student interaction, including feedback about progress and response to student questions, within 24 hours.
- An instructor should be comfortable with the technology and methods needed to implement an online course.
- It is necessary for an instructor to have good writing skills, which are the foundation of an

online class. Face-to-face interaction traditionally available in the classroom is missing in an online learning environment. Oral communication is replaced by a keyboard.

- The teacher must accept the value of online instruction as equal to the traditional model. A teacher who feels that the only way the learning process can take place is through the traditional classroom model probably is not right for online instruction or course development. The teacher must remember that the traditional classroom cannot be duplicated in an online environment.
- An instructor must be able to project his or her personality online to create a supportive environment where students will feel comfortable interacting with the teacher and each other.
- The successful online instructor must be able to be a facilitator of learning. The ideal teacher for this course provides opportunities for student engagement using student-centered activities.

Professional development

In addition to training in our online platform, Blackboard, teachers receive training in designing and sequencing online instruction. Topics include:

- Strategies
- Instructional plans
- Promoting interactivity
- Research and theory
- Facilitating online instruction
- Resources

The eHigh School initiative's success is possibly due to the high level of proactive planning and support provided by a team of technology staffers who focus on ensuring the success of distance learning. This team keeps abreast of new technologies and updates in the technical area of distance education. It works closely with the district's School Improvement Division to make all efforts truly seamless. The team is a very important component of the eHigh School program.

Evaluation

- Student completion rates, grades, and end-of-course test/final exam results are included in student achievement results.
- All students are asked to complete an exit survey, which has provided us with valuable information on student satisfaction, instructor interaction and facilitation, course organization, delivery of the course, and challenges encountered.
- The Blackboard server provides data to measure student access by day, week, and hours.

Recommendations for schools and districts

- Small school districts might want to consider leasing courses through a private provider.
- School districts have to be committed to online learning and be willing to provide the staff, time, technology, and funding to support the program.
- eHigh School has been a success due to the collaborative efforts of Cobb County School District's Technology Services Division and School Improvement Division.

Recommendations for school boards

- Begin by assessing the curriculum needs of your district. You might find that some of those needs can be met through distance learning.
- At the beginning of the process, it is essential to include district curriculum leaders.

District policy

The Cobb County School District does not have a written policy on virtual schools. However, its written policy on copyright addresses rights to curriculum content created by teachers, including courses created for eHigh School.

Oakland Virtual Connection
Waterford, Michigan

District

Oakland Schools
Waterford, Michigan

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Virtual school start date

2000-2001

Mission statement

To weave together the paths of traditional learning and technology in order to create an online community that recognizes and affirms individuals, their learning styles, and talents.

Grade levels

High school — grades 9-12

Enrollment

2001-2002 — 175 students

Eligibility criteria

In addition to Oakland County students, students outside the county and homeschooled students are eligible, but fees may be slightly higher.

Challenges

- Time to develop excellent courses
- Financial sustainability

- Union issues
- Few local district board-approved online policies
- Adequate training for teachers who are developing and teaching courses

Funding

Operating funds

Cost-per-student

$350 per semester for all Oakland County students

Equity

The district is planning to write a grant to address equity.

Course development

- Four full-time teachers employed by Oakland Schools are developing courses in Dreamweaver for delivery via the Blackboard platform.
- A few courses are licensed from Florida Virtual High School, Intelligent, and Scholars First.

Instructional delivery methods

Most courses are delivered entirely online, and two courses combine distance learning and face-to-face instruction.

High school curriculum

High school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)
- Remedial courses
- Advanced Placement courses
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) virtual courses chosen by students:

- Science and ethics
- History of the Holocaust
- Advanced Placement computer science

Virtual school teachers

Full-time teachers and consultants are selected for curricular expertise, teaching abilities, and willingness to learn or expand online development skills.

Professional development

- Online professional development course developed by Oakland Schools
- Mentors (one-on-one) provided
- Teacher participation in online course(s) as students
- Formal training on Macromedia Tools and Blackboard

OAKLAND SCHOOLS

POLICY 5115. ADOPTED _______

Online Learning

The Board of Education recognizes the value in providing increased opportunities for students to participate in learning environments other than the standard classroom. Such opportunities include online courses for high school students.

Procedures for participating in online high school courses offered through Oakland Virtual Connection include:

1. Courses available through Oakland Virtual Connection are accepted as approved local district courses.
2. Counselors and parents make recommendations to confirm students possess the ability to succeed in an online learning environment.
3. Students enroll in online courses as part of the regular registration process.
4. Students may not participate for credit in more online courses than are allowed by the State Department of Education (2 courses/semester for 2000-2001 school year). This is in accordance with the State document, Guidance for Determining Pupil Instructional Time for "Virtual" Classes.
5. Students are enrolled in the local district and taking the online course(s) during the semester credit is awarded.
6. Credit for online courses is awarded and considered to be of equal standing with all other credit awards in the local district.
7. The local district is in compliance with state guidelines for virtual classes and Oakland Virtual Connection policies.
8. The local district supports costs of online courses in accordance with district policies.

The Superintendent or designee shall develop administrative procedures to implement this policy.

MCL 380.601a, February 2001

Evaluation

Outside evaluation is done by North Central Regional Education Laboratory, addressing effectiveness of courses, processes, and procedures.

Recommendations for schools and districts

- Learn from those who are already operational.
- Attend conferences focused on K-12 online learning.
- Initially consider outside consulting.
- Form an advisory board to establish policies and procedures.
- Provide assistance to local districts in developing online policies.
- Include union representatives in planning and implementation.
- Employ full-time teachers to develop and teach courses.

- Formally evaluate efforts.
- Develop a marketing strategy.
- Strive for offering outstanding courses taught by excellent teachers.
- Develop a prerequisite course to teach students navigational skills.
- Plan relevant training and mentoring for teachers who will be developing and/or teaching online courses.

Recommendations for school boards

- Expand knowledge of the potential of online learning.
- Enroll in an online course as a student.
- Discuss implications from a union perspective and determine a strategy for moving forward.
- Review existing online policies.
- Approve a flexible online policy.
- Invite teachers and students to share their thoughts on online teaching and learning.

District policy

Local districts have their own policies. The policy developed by Oakland Schools can be found in the sidebar on the preceding page.

TECHNOLOGY
LEADERSHIP
NETWORK

Partners to Access Virtual Education (PAVE)

East Petersburg, Pennsylvania

District

Lancaster-Lebanon Intermediate Unit 13*
Pennsylvania

Contact information

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Virtual school start date

January 2000

Mission statement

The mission of PAVE, a collaborative between school districts, educational service agencies, state education agencies, and online providers, is to become a resource network for schools, parents, and students to obtain uniquely interactive, high-quality, and flexible Web-based courses, resources, and communities for teaching and learning, as well as resources for local implementation, in a cost-effective manner.

Goals:

(1) Have a positive impact on student achievement by elevating instructor skills to integrate and infuse technologies into current and emerging models of teaching and learning by building the digital capacity of K-12 educational staff through professional education, consultation, and ongoing support.

(2) Establish strategic relationships with and among school districts, educational services agencies, state education agencies, and commercial providers for the purpose of providing cost-effective K-12 Web-based courses, resources, and communities.

(3) Develop and implement essential systems that define operational guidelines for the collaborative.

(4) Provide comprehensive offerings of K-12 Web-based courses, resources, and communities for schools, families, and students.

(5) Provide leadership in the research and evaluation of emerging technologies and the annual evaluation of PAVE.

Grade levels

High school — grades 9-12
Junior high school — grade 8
Middle school — grade 8

Enrollment

2001-2002 — 700+ students
2000-2001 — 150 students
1999-2000 — 45 students

Eligibility criteria

As an educational service agency, PAVE's role is to support local school districts in decision-making processes regarding eligibility. Ultimately, these decisions are made by individual districts and vary from district to district. The majority of local school districts currently offer online courses to in-district/school-based students only. One local district has opened course offerings to homeschooled and non-public school students, but only a small number of students have participated. In light of the recent Cyber Charter issues in Pennsylvania, several districts are considering expanding their eligibility criteria (See Resources in Chapter 4).

Challenges

- Funding: The potential for expanded course offerings presents a new funding challenge for local districts. Local districts are looking at all options to address the funding of online courses. One option is the local district covering the cost. Another option in place in some districts is for parents to cover the costs for online courses. Districts are moving slowly, so they can address any funding issues that arise on a smaller scale.

- Paradigm Shift for Teaching and Learning: Online education is a new approach to teaching and learning. The use of technology as a tool for teaching and learning is an unknown for many people. Therefore, there is much concern and skepticism about the quality and integrity of online learning for K-12 students.
- Accountability Demands: Online learning is an open door to teaching and learning. Because anyone and everyone can see the online curriculum, assessment, and instruction, it appears that online learning is being held to a higher standard than classroom-based practices. Online courses are under intensive scrutiny. As a result, online courses developed by the region's local districts are standards-based and have high levels of student-to-student and teacher-to-teacher interactivity. This approach addresses the concern of online courses being electronic correspondence courses.
- Teacher Unions/Contracts: While not considered a huge challenge, this is an area that warrants caution. Local districts in the region are working to provide online learning opportunities to students within the parameters of existing teachers' contracts. However, as more and more people realize the anywhere, anytime, and any pace possibilities for virtual education and the benefits for students, teachers, and schools, the realities of the limitations of teacher contracts will become a factor in local decision making.

Funding

The PAVE program has received funding from local funds as well as grant-based resources. These funds cover the cost of staff and resources at the educational service center. The staff provides consultation and support.

Cost-per-student

For commercially developed courses, the cost is $300-$375 per 1/2-credit course per student. For locally developed courses, costs are based on the cost of the release of a teacher for a full semester to design and develop a full online course. At this point, locally developed courses are delivered only in the districts where they were developed. However, pricing structures have been established to allow cross-district teaching of online courses ($300 per 1.2-credit course), cross-district content licensing ($2,000 annual fee, unlimited number of students), and course content-licensing to districts and educational service agencies outside the region/state (maximum cost of $10,000 per regional/county-wide system).

Equity

Currently, districts use district-based technology for students to access online courses. Districts have been very resourceful in making computers available to students before, during, and after school hours. This includes computers in classrooms, labs, and libraries, as well as portable lap-top computers that allow students flexibility in where they work at school.

Course development

- Some courses are developed by local districts.
- Commercial online providers (Apex, class.com, Keystone National High School) supply some courses.

Instructional delivery methods

All online courses are Web-based and Internet-based. Students may use a supplemental text with some courses, but all courses have abundant online resources to support online classroom instruction.

High school curriculum

High school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)
- Remedial courses
- Advanced Placement courses
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) courses chosen by students:

- Health
- Family and consumer management
- Algebra I and Algebra II

Junior high school and middle school curriculum

Junior high school and middle school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) courses chosen by students:

- Algebra I (only course offered at this level at this time)

Virtual school teachers

- Teachers with supplemental virtual school contracts
- Full-time or part-time employees hired by the virtual school
- Local district staff deliver locally developed courses to students within their school districts.
- Each district has used locally developed criteria in selecting online teachers. Some districts have asked for volunteers and others have directly approached individual teachers who possessed skills for effective teaching and learning. The key criteria in teacher selection for all districts is to select high-quality classroom teachers. Online learning is not a place to hide a struggling teacher. Online learning exposes all strengths and challenges that a teacher has with curriculum, assessment, and instruction.

Professional development

Through online mini-courses, face-to-face consultation, computer-based training, and staff development sessions provided by PAVE consultants, teachers receive support to design and develop online courses for high school students by learning to:

- Use online communication tools
- Search the Internet for resources
- Discuss components of online courses, the rationale for online learning, synchronous/asynchronous environments, and strategies to facilitate online learning
- Discuss the characteristics of standards-based curriculum, assessment, and instruction

- Design standards-based, planned instruction for online learning
- Effectively integrate Web-based resources into instruction
- Develop instruction with high levels of engagement with course content, the teacher, and other students
- Use Web authoring software and online courseware to develop an online course
- Participate in a peer review process and self-evaluate the design of the online course
- Develop an individual rapport with each online student via online tools
- Deliver the course curriculum based on individual student-pacing
- Develop measures to monitor student learning to ensure proficiency in the standards
- Develop skills to utilize online instructional tools to gather data and facilitate student participation and achievement
- Develop methods to collect feedback from students and parents about course design and delivery

Evaluation

- Instructors use the criteria established by their individual districts to evaluate students participating in their online courses.
- In course development, instructors include a variety of assessment opportunities for students, ranging from the development of projects, portfolios (both electronic and hard copy), participation in asynchronous and synchronous discussions, participation in group activities, and standard quizzes and tests.
- Instructors are in constant communication with all students in the courses via electronic mail and discussion boards, and generate weekly or biweekly progress reports for students, teachers, and guidance counselors.

Recommendations for schools and districts

- Take the time to review demonstrations of virtual courses; talk with course developers, students, and instructors who have participated in virtual courses; and get a thorough understanding of what virtual education is and how it can be used to provide an opportunity for students to be exposed to a wide variety of educational experiences.
- It is important for districts that are thinking about becoming involved in virtual education to research the courses and tools available commercially and from other districts, so as not to waste valuable time, money, and other resources on duplicating what has already been done.
- It is important for districts to evaluate virtual courses to be sure they contain those components that are determined to be valuable in an educational program, such as teacher/student and student/student interaction. Districts need to be aware that participation in virtual education will not necessarily save them money and/or staff, but will provide their students with experiences that are becoming more and more essential in the world where students will live.

Recommendations for school boards

- In addition to the recommendations listed for schools and districts, school boards should keep in mind that integrating virtual education into a district's program will probably not be a cost-saving measure. More than likely, it will be a more costly venture than they think.

- Any school board member, and even district administrator or teacher, who believes that face-to-face, traditional teaching is the only way to effectively educate a child will need to take time to become familiar with effective virtual education.

District policy

Currently, none of the school districts with which PAVE works has a written policy on virtual schools. Several local districts are in the beginning stages of developing such policies and have indicated they are willing to share those policies with other districts.

*Lancaster – Lebanon Intermediate Unit 13 is a regional education center that includes 22 school districts and 2 career and technology centers in Lancaster and Lebanon counties in southeastern Pennsylvania.

TECHNOLOGY
LEADERSHIP
NETWORK

Plano ISD eSchool

District

Plano Independent School District
Texas

Contact information

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Virtual school start date

February 2001

Mission statement

Plano ISD eSchool reflects the vision of the district superintendent, Doug Otto. The Plano ISD eSchool enables students to take high school courses online, on their own time, wherever access is available to the Internet and a computer. Students have the opportunity to interact with a group of recognized, experienced, and well-trained teachers as they work through the curriculum independently. Plano ISD eSchool offers flexibility, responsibility, and compatibility for students who wish to enrich or supplement their educational program.

Grade levels

High school — grades 8-12

Enrollment

2001-2002 — 200 students

Eligibility criteria

- Any student in grades 8-12 who has a desire to enhance his or her high school experience with additional courses; students experiencing scheduling difficulty; and students who are credit-deficient may register for courses through Plano ISD eSchool.
- It is the responsibility of the individual student to make certain that a course is approved for credit by the local campus.

Challenges

The most significant challenge for the district is identifying the appropriate funding source. The costs involved in developing and providing online courses can be prohibitive for a district.

Funding

All funding is from local funds through the Plano ISD eSchool budget.

Cost-per-student

- Tuition for a Plano ISD eSchool course is $220 per semester (.5 credit).
- Tuition for a class.com course is $295 per semester (.5 credit).

Equity

Plano ISD does not currently have a system in place to provide equipment to students for home use. However, the district is moving in this direction.

Course development

- District staff members create and develop Plano ISD eSchool courses to be aligned with the Plano ISD instructional objectives, which are aligned with the Texas Essential Knowledge and Skills (TEKS).
- class.com is the external provider for some Plano ISD eSchool courses.

Instructional delivery methods

At this time, all course delivery is Internet-based.

High school curriculum

High school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) virtual courses chosen by students:

- English 4
- Economics
- American government

Virtual school teachers

- Each member of the Plano ISD eSchool faculty is a Plano ISD teacher, with Texas certification in the subject he or she teaches.
- Each teacher was recommended by an administrator on his or her home campus as an excellent teacher interested in and committed to online instruction.

Plano ISD
043910

INDIVIDUALIZED LEARNING: EEJD DISTANCE LEARNING (LOCAL)

GENERAL PROVISIONS

All high school students shall be eligible to take courses through the District eSchool to earn credit toward graduation. Prior to enrollment in such courses, students shall make a written request to the principal or designee for approval to enroll in the course. Students shall not be awarded credit toward graduation if approval was not granted prior to enrollment.

The eSchool courses shall be supervised by the campus lead counselor.

Students may earn a maximum of two credits through eSchool courses and may be enrolled in two eSchool courses at a time. Grades earned in eSchool courses shall not be used in computing class rankings.

GRADUATING SENIORS

Seniors who are enrolled in eSchool courses to earn units required for graduation shall complete the course and submit the grade for recording at least 30 days prior to the graduation date in order to be eligible for graduation at the end of the term.

HARDSHIP CASES

Except for the prohibition on using eSchool grades in computing class rank, the Superintendent or designee may exercise discretion in approving eSchool course credit or waiving provisions stated above for hardship cases on an individual basis.

DATE ISSUED: 04/09/2001
LDU-15-01
EEJD(L)-X

Plano ISD
043910

INDIVIDUALIZED LEARNING: EEJD DISTANCE LEARNING (LEGAL)

Credit toward state graduation requirements may be granted for distance learning courses only as follows:

1. Students may earn course credit through distance learning technologies, such as, but not limited to, satellite, Internet, two-way videoconferencing, and instructional television.
2. The distance learning courses must include the state-required essential knowledge and skills for such a course. 19 TAC 74.23

DATE ISSUED: 02/05/2001
UPDATE 65
EEJD(H)-P

Source: Plano ISD Policies and Regulations. http://www.pisd.edu/Board/policies.htm

Professional development

Teachers receive initial and ongoing training in:

- Using and manipulating the course delivery system
- Establishing and maintaining an online relationship with students
- Motivating and monitoring online students

Evaluation

The program is evaluated on the basis of:

- A student's successful completion of the course
- A log of e-mail correspondence between the assigned teacher and the student
- Feedback from the student and the parents

Recommendations for schools and districts

Districts considering virtual school programs must have a thorough understanding of the cost involved and have a willingness to allocate the funds necessary to support the program.

Recommendations for school boards

School boards will need a thorough understanding of the funding commitment necessary to maintain a successful virtual school program.

District policy

Relevant Plano ISD eSchool policies can be found in " Individualized Learning: Distance Learning" (see sidebar) and "Plano ISD eSchool Guidelines/Handbook" (see Appendix 5).

TECHNOLOGY
LEADERSHIP
NETWORK

SK Online
Salem, Oregon

District

Salem-Keizer Public Schools
Oregon

Contact information

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http://skonline.salkeiz.k12.or.us

Virtual school start date

July 1999

Mission statement

SK Online is an alternative program of Salem-Keizer Public Schools. Its purpose is to provide online learning 24 hours a day, seven days a week to any school-aged student who needs acceleration or remediation, is credit-deficient, has scheduling conflicts at his/her regular school, has limited English-language skills, or is homeschooled.

Grade levels

High school
Junior high school
Middle school
Elementary school beginning at grade three

Enrollment

2001-2002 — 1,300 students (estimated)
2000-2001 — 782
1999-2000 — 183

Eligibility criteria

- SK Online is available to any school-aged student who may need course acceleration or remediation, is homeschooled, is credit-deficient, has scheduling conflicts in a traditional school setting, or needs individualized instruction.
- In most cases, an inter-district transfer is filed for students who are outside of the Salem-Keizer School District but live in Oregon.
- A tuition-based system accommodates students who live outside of Oregon or who are already enrolled in an Oregon school district other than Salem-Keizer.
- The online learning model accommodates students who are medically fragile.
- Courses are geared to young people whose learning style is better matched to the self-directed nature of online learning.

Challenges

During the year Salem-Keizer took to develop the proposal to establish SK Online, an extensive process addressed the following challenges (see http://www.skonline.org/aboutsko/planning.htm for details the planning and development steps taken by the district):

- Funding and sustainability
- Infrastructure
- The overlay of a totally new instructional delivery model on existing policies and procedures
- Association and management issues related to personnel practices
- Ownership and inclusion by the traditional school setting. Creating a sense of ownership was greatly helped by the proactive approach taken during the year to involve stakeholders—both users and concerned district personnel and decision makers.
- The greatest and most positive challenge—the inability to keep up with the growth and demand for services—was anticipated, but not to the extent that has been the case. Classes are filled just as fast as teachers and courses are put into place. Due to Oregon's one-year funding delay, the subsequent challenge is to serve an expanded student population with the prior year's resources.

Funding

- The start-up of SK Online and its funding for the first three years were provided primarily by a federal Title VI grant for innovative programs, which was available for a maximum of three years. In 2001, SK Online received its third and final Title VI grant. The grant, totaling $147,332, accounts for one-third of the total SK Online budget.

- The funding of SK Online has slowly been transferred from grant funds to the district's general fund. Students who are inter-district transfers and provide average daily membership (ADM) funds from the state help to offset the cost of SK Online.
- Students who pay tuition also provide additional revenue to SK Online.

Cost-per-student

Cost-per-student of a one-semester course on SK Online is difficult to estimate in dollar amounts. Students who live in the Salem-Keizer School District do not pay tuition to take SK Online courses except during the summer term. Students who live outside of the district and choose not to do an inter-district transfer currently pay $260 per course. This tuition cost is much lower than the actual cost of the class. When the cost of full-time staff, teacher salaries, support staff, building rental, and equipment is accounted for, the cost of each course is much higher than the tuition. However, because many of the expenses are associated with already established systems, there is no cost or low cost to hold each class once it's developed.

Equity

- SK Online has several computer lab sites located around the city of Salem that are easily accessible by mass transit.
- The online school provides support lab sites in which instructional assistants are available to provide help in other languages.
- SK Online works cooperatively with several service agencies in the Salem-Keizer area to offer such items as free bus passes to students.
- The online school has a donor/loaner program for students who do not have home computers. Businesses have donated computers, which are lent to students.
- SK Online also has provided tuition subsidies.

Course development

- For the most part, district staff members develop SK Online's courses. Each course is developed to match the district's planned course development, as well as the Oregon content standards.
- When a teacher approaches SK Online with a potential new course, the online school gives him/her an evaluation packet to complete regarding the proposed course. Each review must explain and include elements such as the syllabus, a course description, class policies, structure, navigability, graphic design, and Web resources.
- SK Online also uses external providers for its math and alternative education courses. External providers are Education Option, an alternative education curriculum, and Boxermath.com and Academic Systems for math courses.

Instructional delivery methods

- SK Online uses Web-based learning.
- Face-to-face methods are used for assessment.
- Face-to-face methods as well as other technologies, such as e-mail and telephone, are used to communicate with students.

- In one example, the honors geometry class was Web-based, but part of the class also met once a week to collaborate on projects.

High School Curriculum

High school students can take the following types of virtual courses or programs:

- Regular courses (required or elective courses normally available at the student's local school)
- Remedial courses
- Advanced courses (SK Online offers advanced courses but not those that are recognized under the Advanced Placement Program.)
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) virtual courses chosen by students:

- Algebra
- Wellness
- Geometry

Junior high school and middle school curriculum

Junior high or middle school students can take the following types of virtual courses or programs:

- Regular courses (required or elective courses normally available at the student's local school)
- Courses unavailable at the student's local school

The top three (i.e., selected most frequently) virtual courses chosen by students:

- Honors geometry
- PreAlgebra
- Algebra

Elementary school curriculum

Elementary school students can take the following types of virtual courses or programs:

- Regular courses (required or elective courses normally available at the student's local school); only math is offered at this time.

Virtual school teachers

- All the teachers who teach online courses at SK Online are hired full- or part-time by SK Online.
- Teachers interested in teaching an SK Online course go through the Salem-Keizer Public Schools hiring process, just like any other school teacher applying for a teaching position at any of the district's schools.

Professional development

- SK Online offers a professional staff development course that teaches educators best practices in online teaching. The course addresses content, communication skills, and tools in the online world. In addition, teachers who take the course receive three hours of graduate credit from Willamette University.

- SK Online also has a peer mentor program for new teachers. Each new teacher is paired with an experienced and successful online teacher to be a guide and to answer any questions about online learning.
- SK Online staff members often make presentations and lead training seminars about online learning.

Evaluation

- Survey data is collected from parents, students, staff, and counselors to get an idea of what is working well and what needs improvement.
- SK Online currently has a graduate student from the University of Oregon examining SK Online's effectiveness and operations.
- SK Online provides the school board and the district's executive cabinet with regular updates of the school's progress.
- SK Online submits census information to the state on a regular basis.
- Grants received by the school require regular evaluations of progress.

Recommendations for schools and districts

- Take a thorough approach to proposal development and involve the stakeholders (including users, concerned district personnel, and decision makers), both perceived proponents and potential critics, in the process. This process established for us a strong foundation and cultivated many stakeholders who have an emotional investment in our success. The Salem-Keizer School District took a year to develop the proposal that eventually became SK Online.
- Build on the success and experience of existing online programs. It is not necessary to build all aspects yourself if existing programs, courses, and practices might benefit your proposal and subsequent program.
- Assess, early on, the willingness and ability of your district to financially subsidize the program. A baseline infrastructure and financial support need to be in place whether there is one student or a thousand students.

Recommendations for school boards

The success of our program directly reflects the fact that we have had total board support. Early in the process, a school board needs to assess its willingness to stay the course. At many times in the launch of an online school, answers may not be easily available because of the newness of online instruction. A tentative board may have the propensity to abdicate support. We were most fortunate that our board dedicated itself to the process and the vision for the long term. The programs that we have seen fail have not experienced unanimous school board support.

District policy

There is no policy in place in the Salem-Keizer School District that specifically addresses online schools. SK Online follows the same policies and guidelines that are in place for all of the district's schools. It must adhere to the same high standards, adopted by the school board, which apply to all district schools, programs, and staff.

TECHNOLOGY
LEADERSHIP
NETWORK

Wichita eSchool
Wichita, Kansas

District

Wichita Public Schools USD
Kansas

Contact information

Shawn Morris
Administrative Coordinator
412 S. Main
Wichita, KS 67202
Phone: (316) 973-5181
Fax: (316) 973-7916
E-mail: smorris@usd259.net
URL: http://www.usd259.com/eschool

Virtual school start date

2000-2001

Mission statement

Wichita eSchool's mission is to eliminate barriers between homeschool and traditional school-based learning by offering lessons, resources, and teaching support.

Grade levels

High school — grades 9-12
Middle school — grades 6-8
Elementary school — grades K-5

Enrollment

2001-2002 — 257 students
2000-2001 — 85 students

Eligibility criteria

- The online program is specifically for homeschool students at all levels from kindergarten to 12th grade.
- For grades K-8, Wichita eSchool provides all lessons, textbook reading, worksheets, and Internet activities for students, as well as answer keys for parents to use in checking daily work.
- At the high school level, students hand in work to their online teachers, who grade the work, give finals, and give grades for fully accredited credit courses.
- At this time, the program takes any students from towns or cities in Kansas. It asks that students be close enough to Wichita eSchool offices to come and take grade-level state and district assessments. High school students also need to take face-to-face semester finals.

Challenges

The biggest challenge at this time is getting the high school students to work consistently on their assignments at home and then turn them in for credit. Wichita eSchool is working with both students and parents to develop a better structure for working at home and meeting deadlines. It takes a lot more organizational skills for students to complete online courses successfully. They don't have a teacher handing them work each day as they walk into a room, as they would at school.

Funding

Wichita eSchool is fully funded through the Kansas FTE per-student allocations.

Cost-per-student

There is no cost to students who take the online courses. The FTE funding covers operating expenses. Wichita eSchool charges a textbook rental fee of $55 for the use of all textbooks per school year.

Equity

An added bonus for participating families is that they may borrow a district desktop computer, printer, and scanner to use at home while they have students enrolled in the program. They have to provide the ISP service to get Internet access at their homes. The program provides a computer to any family that would like to borrow one.

Course development

- Wichita eSchool creates online courses entirely through district teachers. It uses the Blackboard e-Learning platform and Tegrity video production carts to create streaming videos within the Blackboard system.
- The administrative coordinator trains teachers to use Blackboard, create videos using Tegrity, and create online lessons that meet district and state standards. Teachers attend a two-week workshop in June where they get the training they need, plan with each other, and start creating their online courses.
- After that workshop, teachers have computers, a cable ISP, printers, and scanners in their homes to enable them to continue creating courses through the summer.
- The program rolls out the first semester's courses by August and has a second rollout in January for the second semester of lessons.
- Teachers teach in regular schools the same courses they create online. They use most of the same activities online that they use at their schools. They often add more Internet-related activities to the online courses because they know their online students all have access to the Internet.

Instructional delivery methods

- All courses use the Blackboard e-Learning platform, providing a uniform delivery method.
- All courses are online, and students use passwords to access their courses.
- Unit and chapter tests are online, but high school students come to Wichita eSchool offices for face-to-face finals and any state or district assessments.
- The high school chemistry course has a face-to-face, 90-minute lab every other week so students can do experiments that require lab equipment or chemicals not available at home. On alternate weeks, the students can do "kitchen experiments" at home.
- The program has close to 500 teaching videos embedded into Blackboard lessons, so that students can get instruction from their online teachers at home. Teachers use the online videos to give lectures, demonstrate experiments, explain new math concepts step by step, for example. The videos allow teachers to really reach into the students' homes to explain and teach.

- All students use district textbooks to complete assigned reading lessons within the courses. They access any worksheets or forms that go with lessons by printing them from the Internet. Wichita eSchool scans all documents in PDF format so that all students can access them online.

High school curriculum

High school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)

The top three (i.e., selected most frequently) virtual courses chosen by students:

- World history
- English I
- Biology

Junior high school and middle school curriculum

Junior high school and middle school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)

The top (i.e., selected most frequently) virtual courses chosen by students:

- 6th-grade language arts
- 6th-grade math
- 6th-grade science
- 6th-grade social studies

(The largest middle school class is in 6th grade, so that is where we have the highest enrollment.)

Elementary school curriculum

Elementary school students can take the following types of virtual courses or programs:

- Regular courses (required and elective courses normally offered by the student's local school)

The top (i.e., selected most frequently) virtual courses chosen by students:

- Kindergarten theme units (one-week to two-week theme-based units; 30 themes for the whole school year)
- 5th-grade core classes (math, language arts, science, health, social studies, writing)

> ***Public schools today need to look at new and innovative ways to reach students. Online courses are another way to reach out and provide services. There are always students who fall through the cracks, and online courses may be just what some of those students need to get their education.***

Virtual school teachers

- Teachers must be certified to teach the subjects they create online.
- Teachers apply for the supplemental positions and are interviewed by a selection team.
- Program administrators look for teachers with strong communication skills and strong backgrounds in designing curriculum.

- It is helpful for teachers to have technology skills, but it is not imperative.
- Program administrators also look for teachers who have a real passion for the program and show enthusiasm about creating courses and working with students online. They have found that teachers who seem to want to participate just for the financial gain are not the best teachers for the project.
- All teachers who create courses teach in classrooms during the regular school day. They create the online courses in the summer and at home.
- Wichita eSchool pays teachers through a supplemental contract to create courses and through another contract to mentor students online.
- Each teacher also has the use of a district computer, printer, and scanner, and the program pays for a cable ISP in their homes.

Professional development

- At a two-week training workshop in early June, teachers learn how to use Blackboard and Tegrity video carts, scan documents, and basically create online lessons. They spend time planning structures for courses and content as grade-level and subject-area teams. This process provides some consistency throughout the program.
- The administrative coordinator uses the video carts to create instructional videos for the teachers taking a course in the use of Blackboard. The teachers then can access how-to documents and watch videos at home if they need a refresher in how to do something they learned during the workshop.

Evaluation

- All students take required grade-level state and district assessments throughout the school year, as well as the national MAT 7 achievement test each fall.
- High school students cannot receive credit for courses unless they pass the face-to-face finals.
- These assessment tools, along with daily work in high school courses, determine if students have been successful.

Recommendations for schools and districts

Go for it! It is a lot of hard work, but it is well worth the effort. You are providing another way for students to learn, and in doing that you are expanding your reach to your community.

Recommendations for school boards

Public schools today need to look at new and innovative ways to reach students. Online courses are another way to reach out and provide services. There are always students who fall through the cracks, and online courses may be just what some of those students need to get their education.

Anne Ward is a freelance writer and editor. She is the former publications manager for NSBA's ITTE: Education Technology Programs.

Chapter 4

Resources

Reports and Research

Any Time, Any Place, Any Path, Any Pace: Taking the Lead on e-Learning Policy. October 2001. National Association of State Boards of Education.
http://www.nasbe.org/e-Learning.html

Produced by a study group convened by the National Association of State Boards of Education (NASBE), this report is designed to give education policymakers sufficient context to take the lead in developing sound e-learning policies. According to the report, opportunities for state education policymakers to influence positively the growth and development of e-learning exist in three major areas: restructuring the public education system, assuring equity, and delivering quality instruction. The discussion incorporates guidelines, examples, and illustrations from research and practice.

Considerations for Planning a State Virtual School: Providing Web-based Courses for K-12 Students. March 2002. William Thomas. Southern Regional Education Board.
http://www.sreb.org/programs/EdTech/pubs/PDF/StateVirtualSchool.asp

At the core of this brief document is a concise, six-step process states can use to guide planning and implementation of Web-based courses for K-12 state virtual school programs. Incorporated in the discussion are examples and data on virtual school activities within the 16 member states of the Southern Regional Education Board.

Guide to Online High School Courses. n. d. Washington, DC: National Education Association.
http://www.nea.org/technology/distanceed/highschool/

The goal of this document is to set forth standards that "will facilitate and expand the use of online programs by equipping all those involved in education to make decisions regarding quality online courses." There are helpful checklists for various constituencies: policy makers, online teachers, online course managers and administrators, parents and guardians, and students.

A Hybrid Course Model. 2002. Thomas E. Oblender. *Learning & Leading with Technology*, 29(6).
http://www.virditional.net/research.htm

This article describes an approach taken by Manheim Township School District's (Pa.) virtual high school to a common problem—high dropout rates for online high school courses. The district developed a "virditional" delivery format, featuring elements of virtual, Web-based delivery systems and the traditional classroom format. Course completion rates went from 75 percent to 99 percent as a result. Accompanying this article on the Virditional Web site are three evaluation reports on the hybrid course model.

Online Education: Implementation Guidelines for Boards of Education. SSTA Research Center Report #02-01. 2002. Loraine Thompson. Regina, Saskatchewan, Canada: Saskatchewan School Trustees Association.
http://www.ssta.sk.ca/research/instruction/02-01.htm

The guidelines are designed to help boards of education in their efforts to support online high school programs administered by public school districts. Background information on distance learning, issues to consider (such as parent involvement and equity), funding, personnel, and evaluation are discussed.

Technology Counts 2002: E-Defining Education. 9 May, 2002. *Education Week*.
http://www.edweek.org/sreports/tc02/

Education Week's annual 50-state report on education technology examines the benefits and shortcomings of electronic learning, as seen by state technology coordinators, virtual high school students, teachers, and higher education faculty. Charts and tables summarize state e-learning initiatives, student evaluation data, and patterns of technology access and use in the states. Topics include virtual teaching, professional development, Web-based course content, online testing, and growth of cyberschools.

Using the Web for Interactive Teaching and Learning: The Imperative for the New Millenium. 1999. Pat Brogan. San Francisco, CA: Macromedia.
http://www.macromedia.com/resources/elearning/whitepapers.html

This white paper provides an insightful and well-written overview of key issues related to using technology to improve learning outcomes. Topics include evolutions in learning theory, research on learning styles, computer-aided instruction, and strategies for implementing online learning programs.

Virtual Learning? Research on Virtual High Schools. 1999-2000, December/January. M. D. Roblyer and Bonnie Elbaum. *Learning & Leading with Technology*, 27(4), 58-61.

This article summarizes findings from four research reports on two virtual high schools: Virtual High School (Mass.) and Florida High School.

Virtual Schools Across America: Trends in K-12 Online Education, 2002. Peak Group.
http://www.peakgroup.net/educationoutlook/virtualschools.html

While this comprehensive report is geared to the K-12 education industry, practitioners, administrators, and policymakers looking for facts about the range of structures and activities in the world of virtual schools will also find it useful. Profiles of forty surveyed virtual schools are included, along with analysis and projections based on the survey data. Statistics are available on student enrollment, teachers, budgets, management and delivery platforms, content and course providers, and strategic partnerships.

Virtual Schools and Programs Online. 2001, August. State of Wisconsin, Department of Public Instruction.
http://www.dpi.state.wi.us/dpi/dlsis/onlinevir.html

This paper reports results of an examination of the online education and virtual schools available to K-12 students. A chart compares key features (e.g., management type, target population, synchronous or asynchronous scheduling, cost, accreditation, diploma availability). Brief descriptions of each school or entity are provided, and there is a discussion of advantages, disadvantages, challenges, and concerns.

Virtual Schools: Trends and Issues. A Study of Virtual Schools in the United States. October 2001. Tom Clark. WestEd, Distance Learning Resource Network.
http://www.wested.org/online_pubs/virtualschools.pdf

This study examines and analyzes virtual school activities and trends as revealed, in part, by a 2001 online survey of 33 virtual schools conducted by WestEd, one of 10 Regional Educational Laboratories, supported by the U. S. Department of Education. Data are provided on general characteristics, such as enrollment; funding; technology-based delivery systems; and curriculum. The report includes brief descriptions of statewide virtual schools in 14 states and profiles of various categories of virtual schools (state-level, college-based, consortium- and regionally-based, local education agency-based, charter, and private). The development and growth of virtual schools are influenced by several context factors, which are discussed briefly. Recommendations and a list of virtual schools, organized by category, conclude the report.

Web-based Instruction in a Rural High School: A Collaborative Inquiry into Its Effectiveness and Desirability. 2001, November. Elizabeth Griffin Chaney. *Bulletin of the National Association of Secondary School Principals*, 85(628).
http://www.principals.org/proquest/

A study of high school students in rural Indiana examined the students' attitudes about and involvement with online course, as well as parent attitudes. The survey instrument is included.

White Paper on Cyber Schools. October 2001. Pennsylvania School Boards Association, Office of Governmental and Member Relations.
http://www.psba.org/CyberSchs/CyberHome.htm

Since Pennsylvania's Charter School Law was enacted in 1997, charter school status has been granted to some Pennsylvania cyberschools, producing significant financial impact on the budgets of many districts, a number of legal challenges to the legality of cyber charter schools, and widespread concern about the adequacy of the existing accountability framework to deal with cyber charter schools. This report reviews the background to the issues raised by cyber charter schools, outlines the state of related legal and legislative activity, and offers guidelines for crafting effective policy. Included in the report are findings from a survey, conducted by the Pennsylvania School Boards Association, of 421 of the state's 501 districts. The survey examines the impact of cyberschools on the districts.

Articles

Education as Commodity. 2001, June. Mary Axelson. *Electronic School.*
http://www.electronic-school.com/2001/06/0601ip.html

In this article the author considers the question of who owns the online content created by K-12 teachers. Using real-world illustrations, the author explores strategies for dealing with intellectual property rights in a digital environment—strategies that consider the rights and concerns of both the teacher and the district.

Learning and Leading with Technology. Online Learning Issue. 2002, March. Volume 29, No.6.
http://www.iste.org/L&L/29/6/index.html

This theme issue features articles on first steps for online teachers, improving retention in online classes, videoconferening, telecollaboration, and approaches to specific subjects like music and art.

BEST COPY AVAILABLE

Learning without Walls. An ASBJ Special Report. 2002, September. *American School Board Journal.*
http://www.asbj.com/

In this special report on virtual schools, NSBA's monthly journal, *American School Board Journal,* enters the world of online schooling and looks at the day-to-day activities, policy questions, and scope of virtual schools. The thorny question of cyber charter schools is also examined. The report also includes a collection of resources about online education and online content providers, as well as sketches of several virtual schools.

Online Coursework. 2001, October. *The School Administrator Web Edition.*
http://www.aasa.org/publications/sa/2001_10/contents.htm

This theme issue features articles on standards, costs, local development of online courses, selecting vendors, and professional development.

Predictors of Performance in the Virtual Classroom. 2002, May. Alvin Y. Wang and Michael H. Newlin. *T.H.E. Journal.*
http://www.thejournal.com/magazine/vault/A4023C.cfm

When considered collectively, there are several indicators that are reliable predictors of poor performance in online courses, according to the authors. They discuss the research and practice that identified the eight risk factors described in this article. Although the focus is on college-level courses, K-12 educators will find the analysis of risk-related student behavior insightful and the strategies for dealing with at-risk online learners helpful.

Teaching Online: Harnessing Technology's Power at Florida Virtual School.
2002, May. Colleen Brandao. *T.H.E. Journal Online.*
http://www.thejournal.com/magazine/vault/A4036.cfm

The author gives readers a glimpse of her life as an adjunct online teacher for Florida Virtual School, formerly Florida Virtual High School, one of the more successful virtual schools. She also discusses the benefits to students and challenges of teaching in an online environment.

TechknowLogia. Theme issue on virtual education. 2002, April-June. Volume 4, No. 2.
http://www.techknowlogia.org

This theme issue looks at conceptual and practical issues associated with virtual education at the K-12 and postsecondary levels, in the United States and other industrialized and developing countries.

Information and Resource Centers

Center for the Application of Information Technologies
http://www.cais.org

Based at the College of Education at Western Illinois University, the Center for the Application of Information Technologies (CAIT) received a U.S. Department of Education Star Schools grant to provide instructional and in-service resources to Illinois K-12 teachers and students. CAIT serves nearly 100 Illinois K-12 schools and about 1,000 nationwide. Among the resources on the organization's Web site is the "Virtual High Schools Resource Listing," which lists virtual schools and content providers.

Distance Education Clearinghouse
http://www.uwex.edu/disted/home.html

Managed by the University of Wisconsin-Extension, the Distance Education Clearinghouse is a Web site that brings together information and resources on distance education from state, national, and international sources. Basic background information on K-20 distance education, current news, lists of organizations, research and case studies, and technical assistance are included.

Distance Learning Resource Network
http://www.dlrn.org

The Distance Learning Resource Network (DLRN) is the dissemination arm of the U.S. Department of Education's Star Schools Program. DLRN provides general information about distance education, a wide-ranging Web site featuring current research and news, online course design tools, and access to online forums. The Web site contains listings and links to more than 80 virtual school programs.

Providers of Content and Platforms for Online Courses

The following list of online content and platform vendors includes providers used by the TLN online initiatives profiled in Chapter 3.

Academic Systems
http://www.academicsystems.com/

Apex Learning
http://www.apexlearning.com

Boxermath.com
http://www.boxermath.com/

class.com
http://www.class.com

Florida Virtual School
http://www.flvs.net

Intelligent Education
http://www.intelligent.com

Jones Knowledge
http://www.jonesknowledge.com

Keystone National High School
http://www.keystonehighschool.com/

This course evaluation matrix is used by Virtual Greenbush (VG) online teachers to evaluate course developed by VG.

Virtual Greenbush Course Evaluation Guide

Southeast Kansas Educational Service Center

This document is used to provide feedback to course developers regarding the quality of the product developed for instructor and student use. Please rate each item listed using a five point scale (0 = not present to 4 = fully present). Use the space provided to give specific feedback regarding each item and each section. Be as specific as possible. Compute a total score and average score for each section.

Developer's Name ______________________________

Course Title ______________________________

Completed By ______________________ Date ______________________

Content

1. Information is accurate and nonbiased *Comments:*	0	1	2	3	4
2. Content is appropriate for audience *Comments:*	0	1	2	3	4
3. Curriculum is aligned with state standards *Comments:*	0	1	2	3	4
4. Different points of view are presented *Comments:*	0	1	2	3	4
5. Involvement with experts is provided *Comments:*	0	1	2	3	4

Total points_____ Ave. score_____

Additional Comments:

Instructional Design

1. Course objectives are clear 0 1 2 3 4
   Comments:

2. Higher level thinking is encouraged 0 1 2 3 4
   Comments:

3. Open-ended questions encourage inquiry 0 1 2 3 4
   Comments:

4. Student reflection is required 0 1 2 3 4
   Comments:

5. Assignments provide for a variety of learning styles 0 1 2 3 4
   Comments:

Total points_____ Ave. score_____

Additional Comments:

Instructional Support

1. Students have appropriate practice 0 1 2 3 4
   Comments:

2. Communication systems provide for a reciprocal relationship between student and teacher, e.g.discussion boards are used 0 1 2 3 4
   Comments:

3. A variety of motivational strategies are included 0 1 2 3 4
   Comments:

4. Individual student feedback is built into course design 0 1 2 3 4
   Comments:

5. Customized assignments are present 0 1 2 3 4
   Comments:

Total points_____ Ave. score_____

Additional Comments:

Technical Organization

1. Links work correctly 0 1 2 3 4
   Comments:

2. Visual aspects of course facilitate learning 0 1 2 3 4
   Comments:

3. Guides are relevant/helpful 0 1 2 3 4
   Comments:

4. Organization/design facilitates learning 0 1 2 3 4
   Comments:

5. Support is ongoing and accessible 0 1 2 3 4
   Comments:

Total points____ Ave. score____

Additional Comments:

Usability

1. Course format is simple to use 0 1 2 3 4
   Comments:

2. Page layout is organized/simple 0 1 2 3 4
   Comments:

3. All graphics, etc. have purpose 0 1 2 3 4
   Comments:

4. Projects are identifiable,
   e.g. student name, assignment # 0 1 2 3 4
   Comments:

5. Course uses digital drop box 0 1 2 3 4
   Comments:

Total points____ Ave. score____

Additional Comments:

Management

1. The introductions/directions for each component assist student organization 0 1 2 3 4
   Comments:

2. A plan to monitor student progress is explained, e.g. pacing expectations, correction policy 0 1 2 3 4
   Comments:

3. Assignments are broken down by weeks, days, etc. 0 1 2 3 4
   Comments:

4. A variety of positive reinforcement strategies are used 0 1 2 3 4
   Comments:

5. Students can customize/create some assignments 0 1 2 3 4
   Comments:

Total points_____ Ave. score_____

Additional Comments:

Assessment

1. Students are involved in self-assessment and goal setting 0 1 2 3 4
   Comments:

2. Specific feedback is provided 0 1 2 3 4
   Comments:

3. Multiple types of assessment are used 0 1 2 3 4
   Comments:

4. Point values are appropriate for work involved 0 1 2 3 4
   Comments:

5. Evaluation/grading criteria is clearly explained 0 1 2 3 4
   Comments:

Total points_____ Ave. score_____

Additional Comments:

Virtual Greenbush Course Evaluation Summary Sheet

Any section with less than 15 points and an average score less than 3 must be rewritten.

Additional Comments on specific sections:

Overall comments/impressions regarding course development:

Course Evaluator ______________________________ Date ____________________

Source: Reprinted with permission. Linda Herbal. 2002. *Virtual Greenbush Course Evaluation Guide*. Girard, KS: Southeast Kansas Educational Service Center.

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Appendix

This online form is completed by Virtual Greenbush online teachers as part of an ongoing evaluation process.

Online Course Questionnaire for Instructors and Facilitators

INSTRUCTIONS:

The purpose of this questionnaire is to determine how an online course is implemented from the perspective of the online course teacher or facilitator. Please complete the following questionnaire by marking ALL instructional design features and strategies ACTUALLY employed the online course for each of the 12 items on the questionnaire. Include any instructional strategies you may provide as teacher or facilitator. You may mark multiple responses for each item. On questionnaire items for which there is no corresponding instructional strategy or design feature employed by the online course, mark as "None of the above." Approximate time to complete the questionnaire is 10-15 minutes.

ID: (last 4 digits of SS No):

GENDER (optional): Female Male

Date:

YOUR FUNCTION FOR THIS COURSE:

Teacher Librarian Counselor Administrator Other

YOUR REGULAR JOB FUNCTION:

Teacher Librarian Counselor Administrator Other

TEACHING EXPERIENCE (IN YEARS):

ONLINE TEACHING EXPERIENCE (IN YEARS):

CERTIFIED TEACHER: No Yes

IF CERTIFIED, WHAT SUBJECT:

Elementary Art Business English/Language Arts

Foreign Language Mathematics Music/Band Physical Education

Reading Science Social Studies/History Voc/Tech/Ind Education

IF CERTIFIED, WHAT GRADE LEVEL:

Elementary Middle School High School All Levels

COURSE NAME:

INSTRUCTIONAL INTERFACE AND FEATURES

1. The course is well structured and learners understand and navigate easily through the Web course using control elements or features.

a. There are graphic or text navigation bars for navigating through the Web course.

b. There is a locator map or index for the Web course.

c. There is online Help or FAQs for the Web course.

d. There is a searchable index for the Web course.

e. None of the above.

2. The Web course facilitates learner-to-teacher and learner-to-learner communications and interactivity.

a. The Web course provides for e-mail interactions with the teacher.

b. The Web course provides an online mechanism for reporting course events and schedules.

c. The Web course provides links to e-mail addresses for other students in the course or an online discussion forum for learner questions and interactions.

d. The Web course provides ways for learners to share and display their work and comment on the work of other students.

e. None of the above.

3. Learners can link to additional online resources that provide related information or examples and support the learning objectives of the web course.

a. Related resources are referenced by the Web course.

b. Links are provided to online resources.

c. Linked resources provide related information or examples that support the learning objectives of the Web course.

d. Linked resources are used to support Web course assignments and exercises.

e. None of the above

4. The Web course and its related online resources present information that is accurate and reliable.

a. Information published in the Web course or related online resources cites reputable or recognizable sources when appropriate.

b. It is clear who is responsible for the contents of the Web course.

c. Citations contain an e-mail address or URL to an author biography or sponsoring entity Web site.

d. Citations provide additional and variable information about the topic.

e. None of the above

5. The Web course is stable and updated to maintain the reliability and timeliness of data.

a. The Web course pages are dated (minimally, the home page is dated).

b. Publication or revision dates are provided.

c. Publication or revision dates are relatively recent (last 12 months).

d. The Web course links to other Internet resources are current and linked to active sites.

e. None of the above

6. There are clear directions for installing and/or locating plug-ins or helper applications necessary for optimal use of the Web course.

a. It is assumed the learner's Web browser is configured properly for the Web course.

b. Online Help and instructions explain how to configure the Web browser and/or download and install plug-ins and helper applications.

c. Technical support is available if the learner is unable to configure the Web browser and/or download and install plug-ins and helper applications.

d. The Web browser is easily configured and plug-ins and helper applications are easily installed through the use of online instructions or access to technical support.

e. None of the above

INSTRUCTIONAL DESIGN

7. The course objectives are clearly stated, directly related to instruction, and correlated to state and national content and performance standards.

a. Web course objectives are aligned with state and/or national standards.

b. Web course objectives are clearly stated and instruction is directly related to the objectives.

c. Links to online resources clearly support the objectives.

d. Web course assignments and assessments are based on objectives.

e. None of the above

8. Multiple methods of evaluation and assessment are used to determine learner's knowledge and application of Web course content.

a. Student evaluation and assessment is based on drill and practice assignments and/or objective tests.

b. There are online forms, tools, and examples for the learner to use to submit assignments.

c. Student evaluation includes rubrics for evaluation of student-produced materials.

d. The Web course facilitates evaluation of the learning process as well as learner products in determining course grades.

e. None of the above

9. The Web course accommodates multiple modalities and learning styles.

a. The Web course facilitates independent research and assignments.

b. The Web course includes supplemental, off-line materials to support instruction.

c. The Web course provides multimedia presentations of important content and/or concepts.

d. The Web course adapts or individualizes instruction based on the performance and progress of each learner.

e. None of the above

10. The Web course offers authentic learning experiences that allow learners to formulate strategies, develop critical thinking skills, solve problems, or make decisions.

a. The Web course uses drill and practice exercises and assignments for learning.

b. The Web courses uses real-world problems and examples for learning.

c. The Web course routinely integrates activities that require learners to solve problems or make decisions.

d. The Web course includes checklists, algorithms, and/or benchmarks to facilitate the learner in solving problems or making decisions.

e. None of the above

11. There are support materials containing suggested student activities, management strategies, timelines, online addresses for help, and suggestions for parent and community involvement.

a. The Web course includes online suggestions for parent and community involvement.

b. The Web course contains online instructions and exercises for off-line learning activities.

c. The Web course contains online instructions, exercises, sample forms, and strategies for off-line learning.

d. The Web course online instructions, exercises, forms and/or strategies for off-line learning include activities that involve parents and/or community participation.

e. None of the above

12. The Web course is without cultural, gender, age, disability, or racial bias or stereotyping and is accessible for persons with disabilities.

a. The Web course does not contain advertising or strategies to persuade learners to a certain point of view.

b. The information of Web pages expresses no bias.

c. The Web course provides text alternatives for multimedia presentations.

d. The Web course provides a text-based or text-only alternative.

e. None of the above

If all the above information is correct please press SUBMIT button. If the information is not correct, press RESET button to erase all your responses and start over

Reprinted with permission. Mills, Steven C. 2002, June. *Virtual Greenbush Online Instructor Questionnaire*. Parsons, KS: University of Kansas, Life Span Institute.

Appendix 3

This form is completed by students at the completion of a Virtual Greenbush (VG) online course as part of VG's ongoing evaluation.

Web Course Student Evaluation

The Virtual Greenbush Web Course Student Evaluation Form should be completed at the end of the Web course. Due to the different types of courses offered and different teaching styles presented by instructors, some questions on this form may not be applicable or appropriate to use in evaluating a course or instructor performance. After you have filled out the evaluation information, please submit the form. Thank you for taking time to complete this evaluation.

Course Name:

Your Gender: Female Male

What grade are you in? 7th 8th 9th 10th 11th 12th

What were your grades like last year?

Mostly A's Mostly B's Mostly C's Mostly D's Mostly F's

Have you taken an online course before? No Yes

Do you own a computer at home? No Yes

From where do you access the Web course most of the time?

Home School Equally Home and School Library Other

Why are you taking this Web course?

Not Offered at High School
Scheduling Conflict
Making Up Credit
Special Medical Needs
Accelerating Graduation
Prefer Online
Other

1. I was satisfied with the Web course.

   Strongly Agree Agree Neutral Disagree Strongly Disagree

2. When compared to a regular high school course at my school, I like the Web course better.

   Strongly Agree Agree Neutral Disagree Strongly Disagree

3. I was satisfied with the technical support and assistance I received for the Web course.

   Strongly Agree Agree Neutral Disagree Strongly Disagree

4. I was satisfied with the amount of interaction I had with the Web course teacher.

Strongly Agree Agree Neutral Disagree Strongly Disagree

5. I learned a lot on this Web course.

Strongly Agree Agree Neutral Disagree Strongly Disagree

6. The Web course motivated me to learn more in this area.

Strongly Agree Agree Neutral Disagree Strongly Disagree

7. I would have preferred to take this course as a regular high school course at my school.

Strongly Agree Agree Neutral Disagree Strongly Disagree

8. I would like to take other courses as online, individualized instruction.

Strongly Agree Agree Neutral Disagree Strongly Disagree

9. The work and study requirements and grading system were made clear and were fair.

Strongly Agree Agree Neutral Disagree Strongly Disagree

10. Course assignments were challenging, worthwhile, and help me learn about the subject.

Strongly Agree Agree Neutral Disagree Strongly Disagree

11. Directions for course assignments were clear and specific and I knew what I was supposed to do.

Strongly Agree Agree Neutral Disagree Strongly Disagree

12. I would have preferred more structure in the course.

Strongly Agree Agree Neutral Disagree Strongly Disagree

13. The instructor was sensitive to student difficulties with the course work.

Strongly Agree Agree Neutral Disagree Strongly Disagree

14. The instructor provided helpful feedback and assistance throughout the course.

Strongly Agree Agree Neutral Disagree Strongly Disagree

15. The instructor encouraged me to communicate with her/him and other students during the course.

Strongly Agree Agree Neutral Disagree Strongly Disagree

16. The instructor seemed to have a thorough knowledge of the subject.

Strongly Agree Agree Neutral Disagree Strongly Disagree

17. Compared to regular high school courses, the amount of interaction with the Web course instructor was appropriate.

Strongly Agree Agree Neutral Disagree Strongly Disagree

18. Compared to regular high school courses, the difficulty of this Web course was appropriate.

Strongly Agree Agree Neutral Disagree Strongly Disagree

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19. Would you take a Web course again?

    Strongly Agree Agree Neutral Disagree Strongly Disagree

20. Would you recommend this course to others?

    Strongly Agree Agree Neutral Disagree Strongly Disagree

What did you like the most about this Web course?

What did you like the least about this Web course?

What changes would you recommend in this Web course?

What other Web courses would like to have offered?

You are finished!! Thank You! Click the Submit Button to send your responses or click the Clear Button to clear your answers and start over.

Reprinted with permission. Steven C. Mills. 2001, May. *Virtual Greenbush Web Course Student Evaluation*. Parsons, KS: University of Kansas, Life Span Institute. http://www.parsons.lsi.ku.edu/vg/index.html. This document has been reformatted for this publication.

Appendix 4

In January 2002, educators in the 480 or more Technology Leadership Network districts were invited to contribute information about their online education initiatives for K-12 students to a planned ITTE publication on virtual schools. The "Technology Leadership Network Virtual Schools Information Form" given below was e-mailed to each TLN district, and the information found in the profiles included in Chapter 3 came from completed information forms.

Technology Leadership Network Virtual Schools Information Form

NSBA's ITTE: Education Technology Programs will produce a publication that focuses on P-12 virtual schools and highlights virtual school programs operated by Technology Leadership Network (TLN) districts. This is a great way to showcase your district's programs and share with colleagues in the field the knowledge you've gained.

Please complete the information form contained in this message and e-mail or submit on disk an **electronic file AND fax or mail** a print version of your completed form, with a signed "authorization" page, by **February 1, 2002**. Send to:

ISMAT ABDAL-HAQQ
Publications Manager
Education Technology Programs
National School Boards Association
1680 Duke Street
Alexandria, VA 22314
ph: 703-838-6214
fax: 703-548-5516
e-mail: IABDAL-HAQQ@nsba.org

You may also contact Ismat Abdal-Haqq (IABDAL-HAQQ@nsba.org) to request an MS Word file of the information form.

Please respond to each item. If the item does not apply to your program, write "not applicable" or "n/a." You may send electronic files of supplemental material, but it is important that we have your response to the items.

Contact Information

This information will be included in the program profiles that appear in the publication.

District ______________________________

Contact person *(name & title)* ______________________________

Mailing Address ______________________________

Phone ______________________________

Fax ______________________________

E-mail ______________________________

URL ______________________________

Person completing this form if not the same as the contact person indicated above.

Name & Title ______________________________

Mailing Address ______________________________

E-mail ______________________________

Phone ______________________________

Fax ______________________________

Authorization

I am submitting the information included in the Technology Leadership Network Virtual Schools Information Form, as well as related supplemental information and materials, for use by the National School Boards Association (NSBA) in disseminating information and sample documents related to virtual schools. I understand that NSBA may publish an edited version of the material and information, or excerpts from it, in one or more of its publications, with appropriate attribution to the authors. I understand that NSBA will hold copyright to the published version.

I grant to NSBA the right to use the information in any format, including electronic form, audio, video, database, or compilation, as well as access via Internet or other technology. NSBA also reserves the right to grant permission to others for use of the information in any format.

I warrant that the information and material provided do not violate the copyright of any person or entity and that I have the authority to give NSBA permission to use the information and material.

Name *(print)* ______________________________

Signature ______________________________

Date ______________________________

Note: "Virtual school" refers to an educational organization that offers P-12 courses via the Internet and/or World Wide Web.

1. **Start date of virtual school(s)** - Indicate academic year when online or Internet delivery of instruction began.
2. **Mission statement** - Briefly state the mission, vision, and/or purpose of your district's virtual school program.
3. **Grade levels** - Check all that apply.

   ________ high school — specific grades (e.g., 9-12) ________
   ________ junior high school — specific grades ________
   ________ middle school — specific grades ________
   ________ elementary school — specific grades ________
   ________ other — specific grades ________

4. **Enrollment** - Estimate the number of students in your district enrolled in a virtual course during the following academic years.

   ________ 2001 - 2002
   ________ 2000 - 2001
   ________ 1999 - 2000

5. **Eligibility Criteria** - Briefly describe the eligibility criteria and selection procedure for students. Are students outside of the district and/or homeschooled students eligible to take virtual courses? Are there restrictions or special requirements for non-district and/or homeschooled students?
6. **Challenges** - List and briefly discuss the significant challenges your district faced or is facing in establishing and sustaining your virtual school program and achieving program goals.
7. **Funding** - Briefly describe sources of funding for your virtual school program.
8. **Cost-per-student** - What is the average cost-per-student of a one-semester virtual course offered by your district? If students must pay tuition for virtual courses, how much are they charged?
9. **Equity** - Are tuition subsidies, scholarships, equipment loans, or other measures in place to enable low-income students and/or students who do not have home computers to participate in your district's virtual school program? If so, briefly describe the measures.

10. **Course development** - Are virtual courses developed entirely by district staff, by external providers, or co-developed? Briefly describe your course development process and specify external providers, if applicable.

11. **Instructional delivery methods** - Briefly describe the distance learning methods employed in your virtual school program (e.g., Web- or Internet-based instruction; videoconferencing; CD-ROM or video). Indicate whether your virtual courses combine distance learning and face-to-face methods.

12. **High school curriculum** - Check all course options that apply.

a. High school students can take the following types of virtual courses or programs:

__________ Regular courses (required and elective courses normally offered by the student's local school)

__________ Remedial courses

__________ Advanced Placement courses

__________ Courses unavailable at the student's local school

__________ High school diploma program

b. Name the top three (i. e., selected most frequently) virtual courses chosen by students:

13. Junior high school & middle school curriculum - Check all course options that apply.

a. Junior high and middle school students can take the following types of virtual courses or programs:

__________ Regular courses (required and elective courses normally offered in the student's local school)

__________ Remedial courses

__________ Courses unavailable at the student's local school

b. Name the top three (i. e., selected most frequently) virtual courses chosen by students:

14. Elementary school curriculum - Check all course options that apply.

a. Elementary school students can take the following types of virtual courses or programs:

__________ Regular courses (required and elective courses normally offered in the student's local school)

__________ Remedial courses

__________ Courses unavailable at the student's local school

b. Name the top three (i. e., selected most frequently) virtual courses chosen by students:

15. **Virtual school teachers** - Briefly describe the source of instructional staff used in the districts virtual school program (e.g., regular P-12 teachers with supplemental virtual school contracts; full- or part-time employees hired by the virtual school). Briefly describe eligibility criteria and selection process.

16. **Professional development** - Briefly describe the professional development and training teachers receive to prepare them to teach in virtual schools.

17. **Evaluation** - Provide a brief description of the evaluation measures your district has in place to gauge the effectiveness of the virtual school program.

18. **Recommendations for schools and districts** - Based on your district's experience, what recommendations do you have for schools and districts considering, planning, or implementing virtual school programs?

19. **Recommendations for school boards** - Based on your district's experience with virtual schools, what recommendations do you have for school boards?

20. **District Policy** - Does your district have a written policy on virtual schools? If so and you are able to share your district's written policy with your colleagues, please submit (as supplementary material) an electronic file and print copy, as described in the introductory instructions.

Thank you for your participation and contribution.

Plano ISD eSchool Guidelines/Handbook

Access to the technology utilized by Plano ISD eSchool courses imposes certain responsibilities and obligations. Appropriate use is ethical and honest, and demonstrates respect for physical and intellectual property, system security protocols, individuals' rights to privacy and to freedom from intimidation, harassment, and unwarranted annoyance.

Use class.com course resources only for authorized purposes.

Students will respect the work and creativity of the authors of materials that are viewed on the Internet. Therefore, students will not copy files from the Internet for any use other than for personal use, unless the webmaster explicitly states that the page may be copied freely.

Use only legal versions of copyrighted software in full compliance with licensing agreements.

Students will respect the work and creativity of software developers and not download or duplicate licensed software. Students may download public domain programs and will pay for shareware programs. Students assume all risks in regard to programs which are public domain, shareware, or licensed.

Use responsible, ethical behavior.

The Internet is a global network of information. Information available ranges from being useful and scholarly to being incorrect, possibly plagiarized, and offensive. There are no gatekeepers or systems of censorship in place on the Internet.

Use technology and the Plano ISD eSchool format in a respectful manner.

Students will not use the Plano ISD eSchool network for financial gain or for any commercial or illegal activity. Students will follow rules written and unwritten, pertaining to Internet etiquette, and communicate respectfully to all people Students will not attempt to bypass security protocols on servers or workstations.

Students are expected to use the Internet and associated technology appropriately.

Actions that constitute inappropriate use include, but are not limited to:

- Use login or password of another individual without permission
- Use files or data of another individual without permission
- Attempt to break into system operations of the network or servers
- Engage in activity that exposes the systems and residing information to any level of harm or danger
- Make illegal copies of software
- Use Plano ISD eSchool network, e-mail, newsgroups for partisan political purposes, harassment, or commercial venture

- Engage in any activity that does not comply with the Plano ISD non-discriminatory policy
- Any attempt to break into or tamper with the system operations, including any student records or grades will result in cancellation of privileges.

Students who violate any part of this handbook or engage in any other activity which school authorities consider inappropriate, will be subject to disciplinary action consistent with Plano ISD academic honesty, policies, and procedures.

Academic dishonesty will not be tolerated in Plano ISD eSchool.

Academic dishonesty includes, but is not limited to, plagiarism, fabrication of information or citations, submitting work of another person or work previously used without informing the instructor and securing written approval, or tampering with computer files and/or academic work of other students. Academic dishonesty will result in one or more of the following actions:

- Loss of grade points,
- Removal from course,
- Failure to receive credit for the course, or
- Loss of eligibility to earn credits through Plano ISD eSchool

Regardless of whether the offense is a first or second offense, if the incident is deemed severe, the student *will* be removed from the course. If further offenses occur, the student *will* be removed from the course.

Respect individuals' freedom from harassment.

Students will protect the privacy of their classmates. Therefore, students will not publish any names, passwords, email addresses, or other information pertaining to other students. Students understand that Plano ISD eSchool courses require use of e-mail and newsgroups as a means of communication and learning; and will, therefore respect the technology as a means of instruction. Students will not use their e-mail account as a means to harass people who use the Internet, including other Plano ISD eSchool students.

By participating in newsgroups, you agree to allow others access to your e-mail address.

Technical support will be provided by Plano ISD eSchool.

If the student has technical difficulties with his/her on-line course, s/he should contact Technical Support. It is the student's responsibility to contact the teacher, the help desk, and/or the eSchool office if s/he experiences any technical difficulties. Hours of operation and contact information for Technical Support are:

- Monday-Friday 8:00 a.m.-5:00 p.m. 469-752-8870
- Monday-Friday 5:00 p.m.-9:00 p.m. 972-672-8482

As in any course of study, student success in online courses is dependent on the amount of attention given to each assessment, study skills, the experiences brought to the course, and the help you receive while taking the course.

Plano ISD eSchool encourages students to give each assessment your best effort. Seek assistance from your teacher regarding course content, tech support regarding technical problems, and/or the Plano ISD eSchool office for other needs or questions.

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Communication between the student and the teacher will be through e-mail.

Upon enrolling in the course the student will receive an introductory letter from his/her teacher. It is important that the student follow the instructions contained in that letter. With the exception of weekends and holidays, teachers will usually respond to e-mail within 48 to 72 hours. Grades for teacher graded assignments will be posted within 72 hours.

Parental support and supervision will ensure student success.

Parents should assist their student by helping set up his/her workstation, encouraging active ongoing participation in the course, and monitoring progress. The student's status can be obtained at any point by accessing the grade book with his/her password.

A student has 18 weeks to complete any course in which he has enrolled.

The expiration date of enrollment is always 18 weeks from the date on which the student enrolled. However, the student may complete a course in as few as 6 weeks. Note: Completion time is calculated from the date of registration. If a student has not completed the course within the 18 weeks, he/she will be dropped from the course, and tuition will not be reimbursed. The student must communicate with the teacher on a regular basis. If a student has not communicated with his eSchool teacher within 30 days of registration, he/she will be dropped from the course, and tuition will not be reimbursed.

Credit will be granted through Plano East Senior High School in accordance with district policies.

Seniors who are enrolled in online courses to earn units required for graduation shall complete the course and submit the grade for recording at least 30 days prior to the graduation date in order to be eligible for graduation at the end of the term. Grades earned in eSchool courses shall not be used in computing class rankings. [Reference Plano ISD School Board Policy EEJD Local]

All district policies related to academic honesty and participation will apply to online courses.

By enrolling in this course, students accept the terms of this handbook and acknowledge and hold Plano ISD eSchool harmless for any injury or offense that may be suffered by accessing information on the Internet.

Plano ISD eSchool Procedures

The following procedures have been developed with student success in mind. Adherence to these procedures will be expected and consequences enforced.

I. Tuition

Payment of tuition must be received in the financial office of Plano ISD within 30 days of course registrations. Failure to pay tuition within 30 days of registration will result in the student being dropped from the course.

Method of payment may be in the form of Visa, Master Card, Discover card or Cashier's check or Money Order. No personal checks will be accepted.

Within 10 days of the online registration, students may cancel enrollment and receive a reimbursement, as per enrollment agreement. A fee of $50 will be retained for administrative fees. Notification of cancellation must be received in writing in the eSchool office within the 10-day period. If a student does not complete a course within 18 weeks, he/she will be dropped from the course, and tuition will not be reimbursed. If a student has not communicated with his eSchool teacher within 30 days of registration, he/she will be dropped from the course, and tuition will not be reimbursed.

Plano ISD eSchool
Student Services Department
2700 W. 15th Street
Plano, TX 75075

II. Transcript

Plano ISD eSchool will issue a transcript to the registrar's office for notification of credit earned. The student and home campus counselor will receive a letter from the eSchool office notifying them of the student's grade status upon completion of the course.

III. Grade Reporting

Students have constant access to their grades through the online course "gradebook". This page indicates all of the grades the student has earned for all assignments and tests turned into the teacher. Students and parents are encouraged to monitor progress.

The teacher is the final authority for assigning grades. There is no appeal of a grade past the course teacher.

IV. Enrollment

Students must follow course selection and approval procedures through the campus counselor. Failure to secure approval may result in no credit being awarded for the course.

Students must contact their eSchool teacher through the eSchool teacher's e-mail address within 30 days of enrollment. If a student has not communicated with his eSchool teacher within 30 days of registration, he/she will be dropped from the course, and tuition will not be reimbursed.

Students may earn a maximum of two credits through a combination of Plano ISD eSchool courses and correspondence courses.

Students may enroll in no more than two eSchool courses at one time.

Seniors who are enrolled in online courses to earn units required for graduation shall complete the course and submit the grade for recording at least 30 days prior to the graduation date in order to be eligible for graduation at the end of the term.

All decisions concerning course approval are made through campus procedures by the counselor and building principal.

V. Technology

Plano ISD eSchool courses are designed for the student to take off campus. Students are not allowed to utilize district equipment while working on these courses.

Students will not use the eSchool network for financial gain or for any commercial or illegal activity.

Students will follow accepted community norms governing Internet etiquette and communicate respectfully to all people.

Students will not bypass security protocols on server or workstations.

VI. Academic Integrity

Academic dishonesty will no be tolerated in Plano ISD eSchool.

Academic dishonesty includes, but is not limited to, plagiarism, fabrication of information or citations, submitting work of another person or work previously used without informing the instructor and securing written approval, or tampering with the computer files and/or academic work of other students.

Academic dishonesty may result in loss of credit and loss of eligibility to enroll in eSchool.

VII. Guideline Issues

Teachers have the final judgement on grade reporting.

The building Principal has the final decision on credit approval.

The Plano ISD eSchool Coordinator will make the final decision in all other student/parent concerns.

Source: Reprinted with permission. *Plano ISD eSchool Guidelines.* n.d. Plano, TX: Plano Independent School District. http://www.planoisdeschool.net/pages/guidelines.htm

Appendix 6

Standards for Courses Exchanged through the Federation Online Learning Center Consortium

The Online Learning Center Consortium is comprised of 34 states in NSBA's Federation. These members are state school board associations across the country who are charged with educating local school board members on how to govern their school districts.

Joining the consortium gives a Federation Member the right to use all courses developed for the consortium, as well as the opportunity to develop courses for use throughout the consortium's Online Learning Center. Each member has the ability to customize a Web page that serves as a "virtual campus" to meet the needs of its customers. Members can develop courses and offer them directly to the board members in their state, or they may submit a course to be considered for exchange among consortium members.

For more information contact: Hilary LaMont (hlamont@nsba.org), director of educational services, or Rachel Kliewer (rkliewer@nsba.org), manager of the online learning center.

1. **Course information is clearly described including:**

- Steps for navigating through the course;
- Course overview/description;
- Learning objectives that clearly define what the learner will know and be able to do;
- Definition of expected amount and type of participation;
- Assessment measures of learner performance, when applicable;
- Maximum amount of time allowed for course completion;
- Minimum amount of time needed for course completion;
- Dates course is accessible for learners;
- Required texts/materials if applicable;
- Prerequisite knowledge if applicable;
- Technological system requirements described in non-technical terms;
- Privacy policy;
- Cancellation policy;
- Acceptable use policy (Appropriate language in chats and discussions, spamming rules, etc.).

2. **Course content:**

- Is appropriate for school board members;

- Is accurate, reliable and up-to-date;
- Is sufficient in rigor and depth to address the learning objectives;
- Is easily adaptable for other state usage;
- Is grammatically correct and consistent in terminology.

3. **Course design:**

- Is organized in a coherent, sequential manner;
- Is consistent in format and structure;
- Takes advantage of the unique applications for online delivery (embedded PowerPoint, multimedia, external links, etc.);
- Is easily navigable;
- Ensures that materials are readily available to the learner.

4. **Course activities:**

- Support the learning objectives;
- Include assignments that are clear and understandable to the learner;
- Promote active learning through learner interaction with class peers (discussion boards, live chats, small group assignments) and/or computer mediated interaction (pre- and post-assessments, video, learner notebook/Electric Blackboard).

5. **Copyright requirements are met.**

Appendix 7

Florida Virtual School

Madonna Wise
Florida Virtual School

Imagine a course-completion rate of 88 percent or higher. Envision receiving comments like these from students and parents:

- *"You not only make me work hard, but you make me find things inside myself that I didn't know were there."*
- *"I am really enjoying this class, especially since I finally understand Algebra."*
- *"Thank you so much for the time and personal attention you gave to Isaiah this last school year. Your time and dedication made it possible for him to achieve a good score on his college placement exam. You made the difference."*

These comments are indicative of courses, teachers, and educational services provided by Florida Virtual School (FLVS), which uses innovative delivery, grounded in tried-and-true principles of good teaching and learning with a profound commitment to customer service. An entirely online, e-learning school, Florida Virtual School provides a model for other K-12 schools as they explore Web-based e-learning.

FLVS began offering courses to students in 1997 and is now affiliated with all 67 Florida school districts. FLVS is projected to have a student enrollment of 12,000 in 2002-2003, with plans in the near future to address the needs of any Florida student seeking to take an FLVS course. The school offers 67 online courses for high school, middle school, and GED and provides consultation and support services around the globe.

"Being acknowledged for excellence in student achievement is very important to us as a school and one of the global leaders in providing courses to schools, districts, states, and countries," says Julie Young, FLVS executive director. "It confirms that our students receive optimum robust courses and that our customers are buying the best product in the market for their students."

Online learning provides students and families the flexibility to learn "any time, any place, any path, any pace." The school's achievements confirm the invaluable role online learning can play in modern education. As the worlds of careers and technology change, FLVS is filling a tremendous need. Through online administration, pedagogy, and instructional delivery systems, FLVS has become an industry leader for successful development and delivery of education.

Schools are reinventing themselves to meet the needs of a rapidly changing world. Faced with tremendous growth and demands from stakeholders, they are seeking efficient and economical ways to diversify while addressing the ongoing challenges and criticism of public education. They are struggling to produce competitive lifelong learners while dealing with an array of issues from discipline to staff training. For hundreds of Florida schools and homes, FLVS is the answer to meeting students' varied and individual needs.

Other schools can learn from the customer-focus of this synergistic school environment, which is both a stand-alone institution and one that partners with hundreds of homes and schools.

Noteworthy features of the school include:

- Free online classes and instruction to all public, private, and homeschool students in Florida. Outside of Florida, classes are available on a license or tuition basis.
- Accreditation as a Distance Learning School by the Commission on International and Trans-Regional Accreditation and the Southern Association of Schools and Colleges.
- Access to courses not available in all schools, especially in rural schools where Advanced Placement (AP) courses or electives such as Latin or Calculus are not offered.
- Success in AP course delivery. FLVS exceeded the national average on test scores on AP exams; more than 50 percent scored 4 or 5 on a scale of 1-5.
- Cost-effectiveness. Teachers and students can work from their homes, saving an estimated $1,300 or more in state and local taxes per student in public school fixed capital outlay costs. Online education can reduce overcrowding and class size, with per-pupil operating costs that are less than those of traditional public schools ($4,820 verses $5,023).
- Recognition in the field. FLVS has received the Year 2000 and 2002 "Excellence in Distance Learning Programming Award," from the U.S. Distance Learning Association, the Canadian Association for Distance Education's "Excellence in Learner-Centered Award," and Southeast and Islands Regional Technology in Education Consortium Award for "Patterns of Promise."

Parent involvement

Parents are pleased with the FLVS model because of the personalized communication. "FLVS has been and continues to be a most rewarding experience," one parent says. "I am very pleased with the instructional staff. I have actually found myself more involved in my daughter's education."

As one teacher pointed out, most students in traditional secondary schools would do anything to avoid having their parents attend class with them. But at FLVS, parents have access to their child's username and password so they may access the course. Parents can check their students' online grade book at least once a week to see how many assignments were submitted and what grades were earned. Parents receive monthly online progress reports and regular monthly calls from the teacher.

Meeting students' needs

"Little did I know exactly how much FLVS would prepare me for college," says Mamie, a former student. "The skills that I developed through my FLVS experience are ones on which I rely daily. The self-set pace of FLVS is a lesson in time management. Forging your own plan for completing reading and written assignments is very similar to the time management required for success in college. The technological skills that I gained have been invaluable. Every day I use the Internet to access information for my classes at Duke. Professors post virtual announcements and reference materials on a routine basis, and students are expected to upload assignments much as they do at FLVS. I can say without hesitation that my FLVS courses greatly eased my transition from high school to college."

FLVS attracts many students who need flexible scheduling, from budding tennis stars to accomplished musicians like Heidi, a pianist who took FLVS courses to facilitate a rigorous practice schedule and preparation for performances at the Aspen Music Festival. Tom, a successful entrepreneur, established his own computer and technology repair business as a high school junior and found attending traditional school no longer met his needs. FLVS offered him the opportunity to complete his high school coursework and make plans for his hands-on career.

Students with health and learning issues find FLVS can easily make accommodations that traditional schools struggle with. Take the case of Janie, who has multiple sclerosis. "Thank you so much for all your help with Janie," her mother told the FLVS guidance counselor. "You will be pleased to know that she received her acceptance from the University of Florida today. I think today was the first day in a very long time that Janie felt like any other kid getting a college acceptance letter. It was great to watch her calling everyone on the planet to share her good news."

Students who have experienced discipline or motivational challenges also find that the FLVS format can meet their needs. And teachers report that communication can be more genuine and personalized because of the absence of such barriers as shyness or misconceptions based on age or gender.

Curriculum and instruction

FLVS provides a rich, collaborative, and active environment where students learn at their own pace. Courses are dynamic, interactive, project-based, and collaborative rather than textbook-centered. Courses are delivered over the Internet, allowing students to access course information and exchange asynchronous communications with their teachers and other students at any time, literally day or night.

Courses are organized by modules, enabling students to take different routes through the material and show proof of mastery in a variety of ways, depending on their learning styles. This framework distinguishes FLVS from other distance learning environments, in which learning occurs simultaneously but from different locations. It also differentiates FLVS from computer-based instruction, in which individuals are guided through a linear learning process. The FLVS interface allows teachers to keep the content "alive" and current. Interactive lessons provide learning experiences far different from the traditional classroom setting. Online students actively share and participate in their education. A variety of Web-based, technology-based, and traditional resources are provided. Teachers communicate with students and parents via mail, telephone, e-mail, and group online chats.

As one FLVS student puts it, the school "challenges students to express themselves in entirely new ways. The virtual learning format is a learning environment in which students cannot solely rely on oral instruction or face-to-face interaction, but instead it asks students to express their thoughts through writing and virtual communication."

FLVS is noted for its innovations in connecting and integrating curriculum. The school's 67 courses use high-interest motifs that have practical and real-world connections. One popular offering is an economics course that revolves around a city motif entitled "Econ City" and uses materials from the book *Ben & Jerry's Double Dip: How to Run a Values-Led Business and Make Money Too*. Students experience the operation of a business and the formulation of the company's mission while they learn both macro- and microeconomics

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concepts within a socially conscious context. This course is indicative of the hands-on, high-interest connections to real-life learning situations that are incorporated into all FLVS courses. For example, in a Spanish course, the student converses with peers in a simulated sidewalk café; in physics, the student learns the intricate principles of this science while enjoying a virtual amusement park. In the American Studies course, which integrates traditional disciplines, high school students receive language arts and American history credits. All courses require project-based activities and out-of-the box thinking.

Standards and assessment

Curriculum, instruction, and assessment are grounded in a standards-driven model based on national standards and rooted in identified student expectations, online instruction, and assessments that meet students' individual needs.

At the core of FLVS course design are the Florida Sunshine State Standards and national curriculum standards as established by the national professional organizations in each teaching content area. The FLVS learning environment provides individualized instruction and accommodates multiple learning styles, allowing students more control over their learning process.

"Breaking Ranks: Changing an American Institution," a 1999 report from the National Association of Secondary School Principals and the Carnegie Foundation for the Advancement of Teaching, urges schools to foster more supportive relationships between faculty and students. This same research also proposes that every student have a relationship with an adult in the school. These beliefs and principles are inherent in the FLVS system. Teachers telephone students and parents monthly and e-mail on an ongoing basis. Communication is personalized and one-to-one, and the very nature of the curriculum is individualized.

School District	Problem	Solution	Goal	Results
Broward County (Florida) Public Schools, the nation's fifth largest fully accredited school district and one of the fastest growing in the nation	**Broward is in a period of unprecedented growth as approximately 6,000 to 10,000 new K-12 students are enrolled every year. The enrollment is a diverse multicultural, multi-ethnic population with students from 152 countries speaking 52 languages.**	**In response to a demand for online learning across the state, Broward County has addressed both its rapid growth and the fact that the demand for e-learning solutions out-weighed supply. The district franchised with FLVS for quality courses and procedures using the district's own teachers.**	**The goal was to create an effective, quality online high school whose teachers would be trained by FLVS and employed by Broward County.**	**Broward County's experience in creating a virtual school for its students has paved the way for other large and small districts. The consulting processes and resulting model, which continue to be updated with new deliverables, have contributed to making the FLVS/Broward partnership an outstanding success. http://www.becon-itv.org**

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The research-based curriculum is state-of-the art. The philosophical framework is based on Robert Gagne's cognitive research, which identifies sequences of events that occur in learning. The events are closely tied to cognitive theory on how the brain uses and stores information. Courses and assessments utilize the work of Benjamin Bloom, with attention to readiness for learning and human behavior as they relate to learning patterns and higher-order thinking.

Staff development encompasses curriculum, content knowledge, and pedagogy, as well as technology training. Continuous professional development for all members of the school has a positive impact on student performance and organizational growth and change. Mentors train and coach new teachers in the unique components of online teaching. As FLVS has partnered with other states and international affiliations, its veteran teachers act as mentors to new teachers, interacting in the "actual classroom" setting of the new teacher as he or she learns the technology platform and works with students and parents.

FLVS continuously evaluates its effectiveness and publishes results to the public. Annual evaluations of the entire program are conducted by Florida State University's College of Education and by Optimal Performance, Inc. Each year, the evaluation focuses on (1) curriculum and instruction, (2) student access and performance, (3) customer satisfaction, and (4) fiscal resources. The evaluators use multiple strategies in collecting the data.

Florida Virtual School offers the solution to many situations of rapid growth and educational need. The Broward County example (see table on page 90) illustrates the services FLVS provided to a school district in tremendous need.

For more information, visit http://www.flvs.net.

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NSBA Education Technology Publications

Publications from the National School Boards Association's ITTE: Education Technology Programs Department help education leaders meet the challenges of applying technology in schools. Each Technology Leadership Network district receives complimentary copies of new volumes at the time of publication and special discounts on additional purchases. A full publications brochure is available from ITTE. Tables of contents can be viewed at www.nsba.org/itte/publicat.html, as well as selected articles from the newsletter, *Technology Leadership News* (http://www.nsba.org/itte/insiders.html). More recent publications include:

Books and Reports

NEW! Virtual Realities: A School Leader's Guide to Online Education (2002)

NSBA's latest education technology guide, *Virtual Realities: A School Leader's Guide to Online Education*. This guide gives school board members, superintendents and other district administrators, technology coordinators, staff developers, building administrators, teachers, higher education faculty, and researchers practical information about planning and operating online, or virtual, schools. The book features profiles of virtual school programs operated by districts in NSBA's Technology Leadership Network; discusses and illustrates promising practices and successful models and approaches; provides planning and implementation resources; presents costs and benefits of launching virtual schools; and offers preventive strategies that help districts anticipate and avoid common pitfalls. Find out how districts are handling academic credit, equity, attendance requirements, copyright and other legal issues, staff development, funding, accountability and evaluation, curriculum design, and standards alignment.
Softbound, 104 pages, ISBN 0-88364-257-3. $35 ($28 for TLN members) Order #03-152-84

NEW! Connecting Schools and Communities through Technology (2002)

Find out how schools and districts are using technology to reach out and engage parents and community members in making schools work better for students. Topics include: electronic tools for school boards; planning, implementing, and maintaining a parent and community engagement program; Web sites that work; and legal issues related to computer-based outreach strategies. Also includes profiles of parent and community outreach efforts by schools and extensive resources. Softbound, 78 pages, ISBN 0-88364-256-5. $35 ($28 for TLN members) Order # 03-151-84

Technology Professional Development for P-12 Educators (2001)

Get help planning, implementing, and assessing technology-related professional development for teachers and administrators in your district. This practical, user-friendly guide gives you research-based frameworks for designing staff development programs that are linked to student learning goals, incorporate new technology standards, and reflect adult learning theory. Funding strategies and sources, program profiles, and helpful resources are included. Softbound, 101 pages, ISBN: 0-88364-232-8. $35 ($28 for TLN members) Order # 03-149-11

Legal Issues & Education Technology: A School Leader's Guide, 2nd Edition (2001)

Written by members of NSBA's Council of School Attorneys (COSA), this guide emphasizes preventive strategies and knowledge school leaders need to avoid costly, disruptive litigation as they attempt to successfully blend various technologies into the instructional and administrative work of schools. Contents reflect recent legislation and court decisions and are presented in accessible format and language. Topics include: filters; legal requirements for accessible Web design and ergonomically sound facilities; student and staff privacy rights; COPPA, CIPA, FERPA, ADA compliance issues and updates; copyright; acceptable use policies; commercial agreements with e-businesses; open-meeting "sunshine" laws; and more. Softbound, 146 pages, ISBN: 0-88364-247-6. $35 ($28 for TLN members) Order # 03-150-11

Plans & Policies for Technology in Education: A Compendium, 2nd Edition (2000)

Actual district technology plans illustrate practical solutions school technology leaders have taken to address persistent problems in education technology integration. The second edition supplements the resources included in the first edition of *Plans & Policies*, featuring 25 new district plans and updated information on trends and issues. The guide features a user-friendly six-step planning model, articulates a conceptual framework for technology planning, offers nuts-and-bolts guidelines for developing action plans, and provides extensive examples and discussion of acceptable use policies, facilities management, staff development, curriculum integration, and other critical topics. Also included are abundant Internet and other resources for technology planners. Softbound, 238 pages, ISBN: 0-88364-236-0. $35 ($28 for TLN members) Order # 03-147-11

Models of Success: Case Studies of Technology in Schools (1999)

In this exciting collection of case studies, planning and policy documents appear alongside narratives of what 20 school districts have achieved with technology. Chapters divide the studies according to how education leaders have used technology to support student achievement, technology infrastructure, professional development, and community-wide learning. Developed with support from Microsoft Corporation, the models, documents, contacts, and guidance help readers construct and refine their own success stories. Softbound, 232 pages, ISBN: 0-88364-226-3. $35 ($28 for TLN members) Order # 03-146-11

Leader's Guide to Education Technology (1998)

Research, analysis, and recommendations included in this volume help you make sound technology decisions about student achievement, educational equity, and work force preparedness. You'll find empirical evidence of how technology makes a difference in teaching and learning, as well as examples of the challenges schools face and sample questions to ask when considering technology planning. A good guide to give others who need to "get on board" the school improvement effort, it is published by the EDvancenet project—a partnership of the National School Boards Foundation, the Consortium for School Networking, and MCI WorldCom—and is also available at www.cosn.org/edvancenet. Softbound, 24 pages. $10 ($8 for TLN members) Order # 03-144-11

Technology & School Design: Creating Spaces for Learning (1998)

This essential guide will help you plan and design or remodel school buildings, hire skilled architects and technology consultants, and work to create effective learning spaces. Written by leading school architects and technology consultants, it will be instrumental as you develop technology plans and make upgrades to your school and district infrastructure. Softbound, 122 pages, ISBN:0-88364-220-4. $35 ($28 for TLN members) Order # 03-143-11

Investing in School Technology: Strategies to Meet the Funding Challenge/School Leader's Version (1997)

Learn more sophisticated costing and budgeting techniques to finance technology in your school district. Supported by Newcourt Credit Group and based on a report prepared for the U.S. Department of Education, the "School Leader's Version" also supplies a glossary and information on additional funding sources. Softbound, 85 pages,
ISBN: 0-88364-214-X. $25 ($20 for TLN members) Order# 03-140-11

Technology for Students with Disabilities: A Decision Maker's Resource Guide (1997)

Technology is an essential ally in helping students who have learning problems, major cognitive disabilities, or physical disabilities. This guide offers strategies for technology implementation to improve curriculum, assessment, and administration. Readers find assistance in assessing their needs; choosing and funding technology; and creating policy frameworks, long-range technology plans, and due process procedures. Relevant federal documents are reprinted along with an extensive resource list (also available at www.nsba.org/itte). Published by NSBA and the U.S. Department of Education's Office of Special Education Programs. Softbound, 103 pages, ISBN: 0-88364-207-7.
$25 ($20 for TLN members) Order# 03-138-11

Education Leadership Toolkit: A Desktop Companion (1997)

This is a concise introduction to many of the issues education leaders face as they integrate technology into their districts' activities and operations. Designed to prompt discussion and exploration, the *Desktop Companion* is divided into scenarios with questions to consider, followed by tips and resources for developing an approach to navigating the wealth of material available on the Education Leadership Toolkit Web site at www.nsba.org/sbot/toolkit.
Softbound, 32 pages. $10 ($8 for TLN members) Order# 03-142-11

Leadership & Technology: What School Board Members Need to Know (1995)

To ask the right questions and make appropriate policy decisions, school board members need to consider and understand the wide array of technology-related issues that are treated here in a discussion-guide format. Also find a step-by-step guide to technology planning, advice about the board's relationship to administrators and the district's technology planning committee, a glossary of terms, and a bibliography. Softbound, 194 pages,
ISBN: 0-88364-196-8. $35 ($28 for TLN members) Order# 03-135-11

Newsletter

Technology Leadership News is an eight-page newsletter published nine times a year. As a benefit of membership in NSBA's Technology Leadership Network (TLN), the superintendent and 11 additional designated district staff receive subscriptions. TLN members may order additional subscriptions at 50% off the regular price. Members may also access the newsletter at the ITTE Web site using the membership user name and pass code. This timely newsletter about education technology issues and opportunities is available to individuals and organizations outside the Network at an annual subscription rate of $100.
Order# 03-119-84

To Order:

To order publications or for more information, call the NSBA Distribution Center at 1-800-706-6722, or order online at http://www.ns2k.com/nsba/pubs.

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Virtual Realities: A School Leader's Guide to Online Education

Virtual Realities: A School Leader's Guide to Online Education gives school board members, superintendents and other district administrators, technology coordinators, staff developers, building administrators, teachers, higher education faculty, and researchers practical information about planning and operating online, or virtual, schools. The book features profiles of virtual school programs operated by districts in NSBA's Technology Leadership Network; discusses and illustrates promising practices and successful models and approaches; provides planning and implementation resources; presents costs and benefits of launching virtual schools; and offers preventive strategies that help districts anticipate and avoid common pitfalls. Find out how districts are handling academic credit, equity, attendance requirements, copyright and other legal issues, staff development, funding, accountability and evaluation, curriculum design, and standards alignment.

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